MBTA Revenue and Service Draft Environmental Impact Report

1989 Fare Increase Appendices

Produced by
the Central
Transportation
Planning Staff for
the Massachusetts
Bay Transportation
Authority

MBTA Revenue and Service Environmental Impact Report 1989 Fare Increase

A P P E N D I C E S

SUPPLEMENTAL DRAFT
May 1990
EOEA No. 7551

Produced for the *Massachusetts Bay Transportation Authority*
10 Park Plaza
Boston, Massachusetts 02116

by CTPS
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An interagency transportation planning staff created and directed by the Metropolitan Planning Organization, which comprises:

Executive Office of Transportation and Construction
Massachusetts Bay Transportation Authority
Massachusetts Department of Public Works
MBTA Advisory Board
Massachusetts Port Authority
Metropolitan Area Planning Council

Appendix A. Comment Letters and Response to Comments

A-1. Comments on the Draft Environmental Impact Report

The Draft Environmental Impact Report (DEIR) was reviewed by state agencies and by local officials from towns within the MBTA district. In addition, several interested individuals and private organizations have taken the time to comment on the Draft. All of the comment letters which were received are included here, along with their related responses from the MBTA. Following is a list of the public and private agencies and persons who commented on the DEIR:

	Page
• Association for Public Transportation, Inc.; Letter from Stephan Chait, October 4, 1989 (2 pages).	A-6
• Citizens Advisory Committee on the MBTA Revenue and Service EIR; Stephan Chait, Anne M. Larner, Andrew Hamilton, David C. Soule, November 21, 1989, (3 pages).	A-10
• Charles Bahne, Jr.; Letter, November 27, 1989, (12 pages).	A-17
• The MBTA Advisory Board and the The MBTA Advisory Board EIR Review Committee; Anne M. Larner, November 22, 1989, (16 pages).	A-43
• City of Boston; Letter, Richard A. Dimino, November 27, 1989, (4 pages).	A-75

A-2. Comments on the Environmental Notification Form (ENF) and the Public Hearings

The Public Hearings on the Fare Increase were an opportunity for cities, towns, and private organizations and individuals to comment on the proposed MBTA fare increase. This section of the Supplemental Draft EIR contains the comment letters received on the ENF as well as those received during the hearing period. The following is a listing of correspondence from those who commented on the ENF, at the hearings and before the issuance of the Secretary's Certificate:

Comments on the Environmental Notification Form:

	Page
• The Montachusett Regional Planning Commission; Nathaniel T. Dexter, March 10, 1989 (1 page).	A-84
• Charles Bahne, Jr.; Letter, March 30, 1989 (7 pages).	A-86
• Charles Bahne, Jr.; Letter, March 6, 1989 (2 pages).	A-98
• Charles Bahne, Jr.; Letter, March 1, 1989 (4 pages).	A-102
• Conservation Law Foundation; Andrew Hamilton, March 28, 1989 (1 page).	A-110
• City of Boston; Letter, Richard A. Dimino, March 27, 1989 (3 pages).	A-112
• Stephen H. Kaiser, PhD; March 27, 1989 (2 pages).	A-118
• Stephen H. Kaiser, PhD; March 14, 1989 (1 page).	A-122

Other Comments:

• Conservation Law Foundation; Andrew Hamilton, October 27, 1989 (2 pages).	A-124
• Conservation Law Foundation; Douglas I. Foy, March 14, 1989 (2 pages).	A-128
• The Metropolitan Area Planning Council, including the towns of Stoughton, Natick, Cohasset, Lexington, Needham, Milton, Hingham, Norwood and Woburn; David C. Soule, March 10, 1989, (11 pages).	A-132
• Boston Redevelopment Authority; Paul Reavis, March 9, 1989 (2 pages).	A-154
• The MBTA Advisory Board; Francis X. McCauley, March 7, 1989 (3 pages).	A-158

	Page
• City of Boston; Public Hearing Testimony, Richard A. Dimino, February 28, 1989 (3 pages).	A-164
• Association for Public Transportation, Inc.; Public Hearing Testimony from Stephan Chait, February 28, 1989 (3 pages).	A-170
• Charles Bahne, Jr.; Public Hearing Testimony, February 28, 1989 (4 pages).	A-176
• Conservation Law Foundation; Andrew Hamilton, Stephanie Pollack, February 23, 1989 (22 pages).	A-184
• Association for Public Transportation, Inc.; Letter from Stephan Chait, February 20, 1989 (2 pages).	A-228
• Betsy Johnson, (retyped), February 16, 1989, (3 pages).	A-232
• Conservation Law Foundation; Andrew Hamilton, Stephanie Pollack, February 6, 1989 (3 pages).	A-238

Appendix A-1 Comments on the Draft Environmental Impact Report

RESPONSES TO COMMENTS
ASSOCIATION FOR PUBLIC TRANSPORTATION
STEPHEN CHAIT
(OCTOBER 4, 1989)

A The analysis of farebox recovery ratio has been completely revised, greatly expanded and placed in a separate chapter (Chapter 10, Revenue Recovery Issues). This analysis now examines impacts of a fare recovery ratio on financing and subsidy levels, as well as on fare levels, ridership, VMT and air quality. The description of the MBTA Advisory Board's position on a 33 percent farebox recovery ratio has also been corrected.

B The section on alternative revenue sources has also been completely revised and expanded. It now examines a wide range of potential alternative revenue sources, estimates potential revenue that each could generate, and evaluates each based on a set of criteria. (Chapter 9, MBTA Funding: Existing and Potential Sources)

C In cases where clear standards exist, they have been included in the appropriate sections of the Supplemental Draft (largely in the "Service and Performance Guidelines" section of Chapter 4). In addition, this section has also been significantly revised to provide a clearer understanding of how service decisions are made and how service performance and effectiveness is measured.

D As described above, sections on fare policies and alternative revenue sources, including parking fees, have been completely revised and expanded to provide the additional information needed to make the EIR more useful as a basis for evaluating future financing and fare directions. This information is largely contained in Chapter 9 (MBTA Funding: Existing and Potential Sources) and Chapter 10 (Revenue Recovery Issues).

Association for Public Transportation, Inc.
P. O. Box 192, Cambridge, MA 02238
(617) 547-3332

4 October 1989
RE: EOEA No. 7551

Joe Freeman
MEPA Unit
Executive Office of Environmental Affairs
20th floor
100 Cambridge Street
Boston, MA 02108

Dear Joe,

The MBTA Revenue and Service Environmental Impact Report Citizen's Advisory Committee met on Tuesday, September 26, 1989 to review the Preliminary Draft of the EIR prepared by the Central Transportation Planning Staff for the Massachusetts Bay Transportation Authority. I am writing on behalf of the Committee to provide an overview of our comments and to register the Committee's concerns about the preliminary draft.

It was agreed by the members of the committee that the draft was much more of a descriptive document rather than an analytical one. The MBTA and CTPS staff assumed conclusions prior to a thorough analysis of alternatives. We take the view that much more analysis is required to turn this draft into an acceptable EIR document.

Some of the areas of specific conern are prsented below.

A
1. The discussion of the Fare Recovery Ratio was "upside-down". The issue is to examine financing and subsidy levels rather that trying to define what fares should be. Further, the Advisory Board's position was not stated correctly.

B
2. A thoughtful and careful analysis of alternative revenue sources is required. Fares are only one source and a wide range of other revenue sources to be evaluated.

C
3. There is a need to make explicit the standards used in an analysis, for example, management efficiency - how is it measured? Throughout the draft there is a lack of a clear methodology being used.

D
4. The draft does not provide an analytical foundation for addressing fare policies, parking fee polices

or the use of other revenue sources.

In summary, if the EIR is to be useful for the current and future evaluation of fare increases, then much work must be done. Some of the tasks are identified in the attached minutes of our meeting.

It is clear these corrections will not be made in short order. It is necessary that they be made as the document and process develop over the next year.

Yours truly,

Stephan Chait

cc Thomas Glynn, MBTA
Don Kidston, MBTA
Anne Larner, MBTA Advisory Board
Andy Hamilton, CLF
John Noorjanian, MAPC

RESPONSES TO COMMENTS
CITIZEN'S ADVISORY COMMITTEE
MBTA REVENUE AND SERVICE EIR
(NOVEMBER 21, 1989)

November 21, 1989

John DeVillars, Executive Secretary
Executive Office of Environmental Affairs
100 Cambridge St.
Boston, MA 02108

Re: Comments of the Citizens Advisory Committee on the Draft Environmental Impact Report on the 1989 MBTA Fare Increase, EOEA No. 7551

Dear Secretary DeVillars,

The Citizens Advisory Committee for the Massachusetts Bay Transportation Authority's (MBTA) 1989 Fare Increase environmental impact review process has carefully reviewed the Draft Environmental Impact Report, and submits the following comments. It is our conclusion that the Draft EIR does not satisfy the requirements of the Secretary's Certificate on the Environmental Notification Form or the subsequent scope issued by the Secretary (both attached). We therefore recommend that the report be found inadequate, and that the MBTA be ordered to submit a Revised Draft EIR which is responsive to the Secretary's scoping letter.

As stated in the Secretary's Certificate, the EIR was intended to

> include a broad examination of the MBTA Advisory Board fare box revenue recovery policy and alternatives for MBTA revenue, a detailed assessment of existing and proposed service and ridership, and a careful analysis of the environmental, social, and economic effects of MBTA revenue and service policies and practices. Secretary's Certificate, March 15, 1989, at 2.

The Secretary's Certificate also stated that the EIR would include the "general content" of the environmental review documents produced subsequent to the 1981 fare increase: a Generic EIR on the fare increase, a Socio-Economic Report, and a Management Report. The Secretary's scope for the EIR adopted all of the comments which were submitted regarding the Environmental Notification Form. Most of these were quite extensive. In sum, the task set before the MBTA and its consultants, the Central Transportation Planning Staff, was a considerable one which would require a substantial and dedicated effort to complete effectively within the required timeframe.

A Given the aggressive schedule for completing a Final Environmental Impact Report (FEIR) for this project (three months after ridership compilation), the schedule provided for preparation of a draft EIR prior to data compilation. The draft was to be followed by a more complete supplemental draft EIR. The October draft EIR was a preliminary document prepared for the purpose of soliciting public comment to better identify issues. For these reasons, the October draft was less complete than would normally be expected.

B The Supplemental Draft includes the environmental impacts of a 33 percent farebox return policy in terms of ridership changes, the impact on VMT and on air quality (Chapter 10, Revenue Recovery Issues). Also, the information on alternative revenue sources now includes a discussion of socio-economic impacts of each in terms of who benefits and who pays (Chapter 9, MBTA Funding: Existing and Potential Sources).

C The section on financing has been completely revised. It is now contained in a separate chapter (Chapter 9, MBTA Funding: Existing and Potential Sources) and includes information on the relationship between subsidies levels and fares. It also includes additional information regarding the feasibility of alternative revenue sources.

D Impacts of the rapid transit, surface Green Line, Mattapan High Speed Line and Arlington Heights bus lot parking fee increases have been included in the Supplemental Draft. This information is included in Chapter 6 (MBTA Fares and Parking Fees) and Chapter 8 (Impacts of the Fare and Parking Fee Increases). On commuter rail, counts of lot utilization before parking fees were implemented were conducted only infrequently for special projects; as a result, there is no consistent base from which to make before and after comparisons. However, with the implementation of parking fees at commuter rail lots, the MBTA receives daily reports of parking lot utilization, so that this type of information will be available in the future.

A It is our unanimous opinion that the Draft EIR of October 5, 1989 falls far short of these requirements. The Draft is missing a majority of the ordered analysis, and -- even for the material included -- can in no way be viewed as an analytical document. Rather, it is a review of existing policies and service characteristics, some projections on system ridership, and a preliminary discussion of alternative funding mechanisms. Although it is useful to have disparate information about the MBTA included in a single document, it is apparent that there has been very little analysis of the environmental, social, and economic impacts of alternative fare increase policies or the most recent increase.

The shortcomings of the report are sufficiently extensive that we have not felt it useful to comment on individual sections. Instead, we have highlighted below three areas of discussion missing from the report which we deem most critical to the production of a minimally useful document.

B First, in examining the 33% fare recovery ratio alternative, the report does not address the environmental impacts of this policy or alternative fare/transit funding policies. Nor is there a socio-economic analysis of funding alternatives. Given the purposes of the report discussed above, these constitute serious omissions.

C Second, MBTA financing is only discussed in the most superficial way, and does not read as objective analysis, but rather as a public relations account of cost-containment successes. Without more objective and comprehensive discussion of the MBTA's finances, there is not sufficient context to examine the various tradeoffs between alternative fare policies.

D There is an additional issue that should be added to the contents of the report. In light of the MBTA's recent increase in the price of parking at certain rapid transit and commuter rail parking lots, and the adverse public reaction to these actions, analysis of parking fees as a revenue source should also be examined.

Except for the last item mentioned, the MBTA and CTPS have been made aware of our concerns, and have indicated a willingness to correct these important omissions. Nevertheless, we feel strongly that good intentions, while sincere, are not relevant for consideration of approval of a Draft EIR. Indeed, the "Supplemental Draft EIR" which is scheduled to follow approval of the Draft EIR (and which will evaluate the impact on ridership of the 1989 fare increase), will be of significantly higher quality if the Draft EIR is improved before proceeding further.

In light of the seriousness of the Draft's shortcomings, we wish to meet with you or Janet McCabe to discuss our proposals for correcting the above problems, including the content of the report, the process of review by the Citizens Advisory Committee, and a possible extension of the schedule for completion of this review process. In the present circumstances a useful Final EIR cannot be produced without such changes as we wish to propose.

Sincerely,

Stephan Chait
Association for Public Transportation

Anne M. Larner
MBTA Advisory Board

Andrew Hamilton
Conservation Law Foundation

David C. Soule
Metropolitan Area Planning Council

cc. Frederick P. Salvucci, EOTC
Thomas P. Glynn, MBTA
Donald Kidston, MBTA
Sonia Hammel, CTPS
Janet McCabe, MEPA
Joseph Freeman, MEPA

RESPONSES TO COMMENTS
PRIVATE CITIZEN
CHARLES BAHNE, JR.
(NOVEMBER 27, 1989)

A Copies of the EOEA Certificates have been included in the Supplemental Draft.

B All comments received before the fare increase and as part of this process have been considered. However, the scope and requirements for this EIR are very broad, and out of necessity, not all issues could be addressed at the same level of detail. As stated in the Secretary of Environmental Affairs April 5, 1989 Certificate, it was expected that the scope of the EIR would evolve and be refined, and to guide the process, a Citizens Advisory Committee was formed. This evolution has occurred, and the intention has been to focus to the greatest extent on areas of largest concern to the Citizens Advisory Committee rather than to provide an equal but lower level of attention to all issues.

C All of the areas included in the original work scopes have been addressed, although as stated above, not all have been addressed at the same level of detail. Of the items specifically noted, the methodologies used by the MBTA to estimate ridership, and the accuracy and reliability of the resulting estimates is included in the Supplemental Draft (Chapter 7, MBTA Service Monitoring and Ridership Estimation Procedures), as is analysis of future financing options (Chapter 9, MBTA Funding: Existing and Potential Sources), and fare collection options (Chapter 11, Fare Structure Options and Fare Collection Issues).

However, an analysis of new methodologies to provide "more accurate" ridership data was never intended to be part of the EIR. As described in Chapter 5 of the October draft and in Chapter 7 of the Supplemental Draft, the methodologies currently used are designed to provide the level of detail required for specific purposes. These methodologies are continuously refined as data needs change or as equipment limitations are resolved. At the same time, it should be understood that data collection, service monitoring and data processing is expensive to perform, and therefore, it is not cost-effective to continuously collect data at a higher level of detail than needed for specific projects.

Based on the comments received, the section on future financing options has been revised, greatly expanded and placed in a separate chapter (Chapter 9, MBTA Funding: Existing and Potential Sources).

charles bahne, jr.
224 concord avenue
cambridge, massachusetts
02138

617/354-0539

November 27, 1989

Secretary John DeVillars
Executive Office of Environmental Affairs
100 Cambridge Street, 20th floor
Boston, Massachusetts 02204

Attn.: MEPA Unit

Re: EOEA # 7551, MBTA 1989 Fare Increase
Draft Revenue and Service Environmental Impact Report

Dear Mr. DeVillars:

The draft Revenue and Service Environmental Impact Report for the MBTA's 1989 fare increase should be rejected because it does not meet the requirements set forth when you issued the scope for this document.

A (1) The document which has been submitted fails to include copies of either the Environmental Notification Form or the Secretary's Certificates. While this is a small point, I believe it is typical of the disregard for the EIR process which is exhibited throughout this document.

B (2) The document which has been submitted fails to include a number of items which the Secretary specifically instructed the MBTA to include in the draft Revenue and Service EIR. Notable among these are the written comments submitted by myself and other reviewers in March and April, and other "sections of the scope that do not directly depend on the fall data gathering."

C (3) The document which has been submitted fails to include a number of items which the MBTA itself promised it would include, both in its written outline dated March 27, 1989, and in verbal promises at the Scoping Session on March 16, 1989. Notable among these are proposed methodologies which would result in more accurate counts of MBTA riders, and detailed analyses of future financing options and future fare collection options.

D (4) In general, the document which has been submitted appears to have been assembled with an extreme lack of care, so that it contains a number of factual errors, ambiguities, contradictions, and paragraphs whose meaning cannot be deciphered. Some tables and figures contain unexplained entries, illegible entries, and entries which are patently absurd, and important totals have been omitted. Much essential information is either inaccurate or missing.

C (continued from previous page)
The section on future fare collection options remains essentially as it was in the October draft. Since the fare increase was implemented before the EIR, the intention was not to try to determine how fares should be set currently, but instead to present material that useful in determining how fares should be set in the future. This section goes into considerable detail on this subject (Chapter 11, Fare Structure Options and Fare Collection Issues).

D The October 5, 1989 draft included a large amount of material that was assembled from a large number of sources, and which was intended to provide an overall view of MBTA service and ridership. In most cases, estimates were made at varying levels of precision depending upon the purpose for which it was collected. Varying levels of precision, in turn, are used because of the high cost of data collection, and the higher the level of precision, the more sampling required and the higher the cost. The differences in the information presented are the result of different levels of precision and methodologies used. Although the numbers do not always match, they are representative of the MBTA service and ridership. To further clarify this, the sources for the figures presented and the reasons for differences has been better documented in the Supplemental Draft.

See preceeding page; Comments "C" and "D" of Charles Bahne

E Some of the ridership data is a recompilation of internal MBTA reports. As stated above, it is presented to provide an overall view of MBTA service.

F Given the aggressive schedule for completing a Final Environmental Impact Report (FEIR) for this project (three months after ridership compilation), the schedule provided for preparation of a draft EIR prior to data compilation to be followed by a supplemental EIR. The October draft EIR was a preliminary document prepared for the purpose of soliciting public comment to better identify issues. For these reasons, the October draft was less complete than would normally be expected.

G Comments and responses are included herein.

H Performance guidelines have been added to the Supplemental Draft in Chapter 4 ("Service and Performance Guidelines" section). The MBTA's socio-economic policies and objectives continue to be included in the "Policy Framework for the MBTA" chapter (Chapter 3 in the Supplemental Draft), and are also discussed in the new material in Chapter 4 (Description of Existing MBTA Service) as they relate to performance guidelines.

E (5) Some of the ridership data which has been included appears to be a recompilation of internal MBTA reports, with no explanations attached which would make the data relevant to the current EIR process.

F In the original Certificate for the fare increase, issued March 15, 1989, the Secretary stated, "I expect that the scope will include a broad examination of the MBTA Advisory Board fare box revenue recovery policy and alternatives for MBTA revenue, a detailed assessment of existing and proposed service and ridership, and a careful analysis of the environmental, social, and economic effects of MBTA revenue and service policies and practices." While some of these subjects have been mentioned in the draft document which the MBTA has submitted, none of them have been discussed in the detail which the Secretary requested. Where alternatives analyses have been requested (and promised), alternatives have been enumerated but there is no analysis of them.

G In the Certificate Establishing the Scope, issued April 5, 1989, the Secretary stated that "The comments received during the original and the extended review are of unusual quality and must guide the MBTA in carrying out the Revenue and Service EIR. ... So that these comments may be properly reflected, I require that they be attached to the Draft EIR and either dealt with clearly in the body of the text or responded to individually." In fact, these comments are not attached to the draft document which the MBTA has submitted, and there is no discussion or response to them anywhere in that document. Many of the issues raised in these comments have been completely neglected in the draft which has been submitted.

Therefore, I must respectfully request that the Secretary reject the draft EIR as submitted and that he require submission of an entirely new draft Revenue and Service EIR.

Below are my specific comments on the draft Revenue and Service EIR as submitted; they are organized by page number of the draft Revenue and Service EIR. While some of my comments may appear relatively minor, my intention is to demonstrate the carelessness with which this document was assembled. My comments on the draft Revenue and Service EIR itself are followed by references to my comments which were submitted earlier during this process.

H <u>Pages 3-1 through 3-5, Service, Performance, Socioeconomic Standards</u> -- Although performance standards are mentioned both in the caption of this section and in the MBTA's outline submitted March 27, 1989, in fact this section does not contain any description of the MBTA's performance standards.

Although socioeconomic standards are mentioned in the caption of this section, in fact this section does not contain any description of the MBTA's socioeconomic service standards.

Both items should be added to this section.

I In general, this section has been expanded to provide additional information (and is now included in Chapter 5 (MBTA Service and Ridership: Trends and Projections)). However, the intent was to outline major service changes, rather than to provide a detailed listing of all changes that have occurred. Also, this SDEIR examines changes that have occurred since the last fare changes (1981/82), and the data in the report therefore refers to that time period.

J These two paragraphs have been rewritten (see Chapter 4, Description of Existing MBTA Service).

K The issue of transfers was addressed in Chapter 8 (Impacts of the Fare and Parking Fee Increases) of the October draft. Similar material is in Chapter 11 (Fare Structure Options and Fare Collection Issues) of the Supplemental Draft. Also, changes in monthly costs to pass purchasers, including to

Pages 3-5 through 3-15, Service Description -- The MBTA's outline submitted March 27, 1989, identified this section as "Service History -- Describe recent history of changes in service: Routings, Quantity, Performance."

Some recent changes in routings are mentioned in this section; but others are not -- including the opening of Quincy Adams and Suffolk Downs stations (rapid transit), the reopening of Back Bay Station (commuter rail), Red Line and Green Line night service diversions due to construction, and bus route changes over the years.

I The third paragraph on page 3-6 makes only the briefest mention of changes in service levels (quantity), and then only for rapid transit lines. The discussion of this subject is inadequate and should be expanded.

There is no discussion whatsoever of the MBTA's service performance, either current or past. This discussion should be included, since service performance can have considerable impact on ridership.

In light of the controversy which has arisen about the MBTA's selective use of historical data, as noted below, all historical tables and figures should be extended back at least to 1978, before the MBTA made drastic service cuts in 1980-81 and before its operating performance deteriorated in the same years.

Page 3-9: History of MBTA bus and trackless trolley operations -- The two paragraphs starting with "Most routes began operation between 1900 and 1940 as private services" are grossly in error. Although this discussion is presented only as background information, the inaccuracies contained in it cast doubt on the quality of the entire document.

For the record, nearly all of the MBTA's "core area" bus and trackless trolley routes began as streetcar routes operated by the Boston Elevated Railway (BERy) and its predecessors. Although the BERy was technically a privately-owned company, beginning in 1918 it received subsidies from the Commonwealth and it was operated by Public Trustees under an arrangement called "Public Control." In 1947 the Metropolitan Transit Authority (MTA) assumed the assets and operations of the BERy. Between 1922 and 1961,

J virtually all of the BERy's (and MTA's) streetcar routes were converted to bus operation, with some routes converted to trackless trolleys as an intermediate step.

Contrary to the draft EIR's statement, there were no privately operated bus services (except for intercity routes) in Boston or the surrounding "core area" between 1946 and 1964. Changes in service levels were made by the MTA and the MBTA, not "when private services were taken over," but steadily and frequently throughout the post-World War II era. Some changes in bus route alignments have occurred as new rapid transit lines were opened, and at other times over the years.

It is true that "In 1964, the MBTA was created to succeed the MTA and to encompass a much larger district," and that "The MBTA subsequently absorbed" a few [not "a number of"] "suburban systems."

Table 4-2 (Page 4-3), Table 4-3 (Page 4-4), and Table 4-4 (Page 4-6) -- These tables show the before and after cash fares and monthly pass prices for riders who use either rapid transit only or bus only, i.e. for riders

K who do not need to transfer from one mode to the other. They should be expanded to include cash fares and pass prices for passengers who transfer between rapid transit and bus. This is especially important for Table 4-4,

K (continued from previous page)
those who had lower costs with the new pass program, were presented in Table 4-4 of the October draft in terms of the "break even point". This same information is included in the Supplemental Draft as Table 6-4.

L This correction has been made (see Chapter 6, MBTA Fares and Parking Fees).

M These tourist passes are two of many efforts by the MBTA to promote broader use of the system. Although implemented on July 1, 1989, they were not considered a part of the fare increase.

N Ridechecks are the same as characteristic counts, and line volume counts are the same as pointchecks. The terminology has been clarified in the Supplemental Draft.

O As stated earlier, ridership counts are conducted at various levels of precision depending upon their use. In the counts that the MBTA conducts, as well as in any other type of sampling, it is important to be aware of all data limitations so that data is not misinterpreted. However, as long as the limitations are understood, then the data can be used reliably.

Most of the special counts conducted by the MBTA, including those for this SDEIR, are designed for a 90 percent confidence level with a 10 percent tolerance range, which is fairly standard within the transit industry. Commuter rail conductor counts and pointchecks have been found to be considerably less reliable, which is why specialized counts are typically conducted when major service changes are considered. However, as discussed in the SDEIR, the conductor counts are useful for tracking ridership trends since they are conducted in a consistent manner.

P In the Supplemental Draft, every attempt has been made to avoid unmodified use of the term "surface", and the following terminology is used:

Rapid Transit: All of the Red, Blue, and Orange Lines, and the Green Line between Lechmere and Kenmore or Symphony.
Surface Green Line: All surface portions of the Green Line beyond Kenmore or Symphony and the Mattapan High Speed Line.
Bus: All bus and trackless trolley service.

K which shows monthly pass prices, since the pass price for bus/rapid transit users is different from the sum of the bus pass price and the rapid transit pass price. Also, the changes in the pass program effective July 1, 1989, actually resulted in some commuters paying less than before, and this should be documented in the Revenue and Service EIR.

L Page 4-5, Before and After Pass Fares -- The first sentence in the first paragraph should be revised to read "... rapid transit and express bus pass prices [not "fares"] were increased three months later on July 1, 1989."

M Pages 4-5 and 4-7, Before and After Pass Fares -- This section fails to mention the "Boston Passport" three- and seven-day passes which were implemented by the MBTA on July 1, 1989.

N Pages 5-1 through 5-8, MBTA Ridership Data Collection -- The outline submitted by the MBTA includes "line volume counts" and "characteristic counts" under this section; however, neither term is mentioned here. If other, synonymous terms (such as "pointchecks" and "ridechecks") are used in the draft EIR, then the terminology needs clarification. Otherwise, these items should be added to this section.

O Page 5-2, Rapid Transit Ridership Estimates; Pages 5-4 and 5-5, Commuter Rail Headcounts and Audits; and Page 5-8, Annual MBTA Boarding Counts at Rapid Transit Stations -- In each of these cases, the MBTA admits that its ridership data is unreliable, for reasons such as malfunctioning equipment, estimates "based on the number of standees or empty seats," timing of daily readings, manual gates left open, and so on. However, no attempt is made to evaluate the probable error resulting from any of these factors. The Revenue and Service EIR should include a +/- error figure for each of its ridership estimates, so that the validity of comparisons can be accurately assessed.

Also, the Revenue and Service EIR should define what steps the MBTA plans to take to reduce the margin of error so that more accurate ridership data will be available in future years. My understanding, based on the Scoping Session on March 16, 1989, is that this study would include a summary of proposed methodologies and technologies which would result in more accurate ridership data. I am very upset that this portion of the study has been omitted, as I believe that this was an important part of the Revenue and Service EIR which the MBTA promised to prepare.

P Page 5-3, "Surface Lines"; Page 5-9, "Rapid Transit and MBTA Surface Transit"; and Tables 5-3 and 5-4 (Page 5-3) -- The use of the term "surface" in these applications is ambiguous and confusing. As used by the MBTA, the word "surface" includes three different modes: streetcars, buses, and trackless trolleys. For ridership and revenue purposes, local buses and trackless trolleys are identical in operation and in fare structure. However, express buses serve a different purpose and operate at a different fare structure from local buses; and streetcars operate on three different fare structures (Riverside Line, other surface Green Line, and Mattapan

P (continued from previous page)
Ridership in the Supplemental Draft is presented in these three categories. This data could not be accurately broken down further because of the timing of the project. The "before" data was collected as part of a separate project to estimate ridership that began before the decision to conduct the EIR, and at the time, there was no need to disaggregate the estimates further than by the three modes listed above.

Q This paragraph has been deleted.

R Sources and methodology for the included information have been added to the Supplemental Draft.

S This chapter has been reorganized. Chapter 5 (MBTA Service and Ridership: Trends and Projections) now provides information on historical trends and projections of future growth. As indicated in the October draft, impacts of the fare increase, including before and after ridership estimates, are in a separate chapter (Chapter 8, Impacts of the Fare and Parking Fee Increases).

T As explained above, the purpose of this SDEIR is to examine the time period since the last fare changes. As a result, historical data goes back 1983, the first full year following the last fare changes.

U It would be useful to portray MBTA ridership in the context of its competitors. However, the data required to do this is not readily available and beyond the scope of this EIR as originally defined, and as refined by the RSCAC.

P Line). Thus, the term "surface" includes three different operational purposes and five different fare schedules -- three of which were changed in spring 1989. Data in the Revenue and Service EIR should be presented and analyzed separately for each of these different fare structures (i.e., local bus/trackless trolley, express bus, Green Line-Riverside, Green Line-other surface, and Mattapan Line); and the ambiguous term "surface" should be avoided.

Q Page 5-9, Rapid Transit and MBTA Surface Transit -- This paragraph is confusing and appears to contradict itself. The second sentence says that "An unlinked trip is counted every time a person enters a transit vehicle (except rapid transit-to-rapid transit transfer trips)." However, in the fifth sentence the fact that "rapid transit travel ... is more likely to involve a transfer" is given as a reason for the increased number of unlinked trips. This paragraph needs to be rewritten in clearer language.

R Tables 5-1 through 5-6, and Figures 5-1 and 5-2 (Pages 5-10 through 5-19), MBTA Ridership Data -- On pages 5-1 through 5-8, the draft Revenue and Service EIR documents a number of different methods which are used to derive different estimates of MBTA ridership. However, it is not stated which specific technique(s) are used to derive the ridership data in each specific table or figure. This information should be given as a footnote to each table or figure.

S Tables 5-1 through 5-4 (Pages 5-10 through 5-13), Trends in Commuter Rail, Rapid Transit, and "Surface" Ridership, 1982 through 1988 -- The purpose of the Revenue and Service EIR is twofold: to assess the environmental, social, and economic impacts of MBTA revenue and service policies and practices in general; and to assess the specific impacts of the 1989 fare increase. Those tables which show year-to-year trends are useful for assessing longterm, general impacts, but they are of little use in estimating the impact of the fare increase. Likewise, before and after data are necessary to evaluate the impacts of the fare increase, but they shed little light on the longterm picture. Thus, this portion of the Revenue and Service EIR could be better organized by presenting the longterm data separately from the before and after data.

T Secondly, some controversy has arisen in recent months about the MBTA's selective use of historical data in a manner that makes longterm ridership gains appear larger than they actually are. MBTA ridership in 1982 was at its historical low because of the combined impacts of fare increases (including a 200% increase in the base rapid transit fare), service cuts, and deterioration in service quality. For this reason all historical tables and figures should be extended back at least to 1978, before these ridership losses began.

U Finally, any longterm evaluation of MBTA ridership should be done in the context of its competition -- including private automobiles, vanpools and other alternative commute methods, and privately operated public transit carriers. Data which should be presented in the Revenue and Service EIR includes the number of automobiles and small trucks registered, overall vehicle miles traveled, vanpool data from Caravan, and private carrier transit ridership for the same years (1978-1988) as MBTA ridership. Where

U (See previous page)

V Annual passengers divided by 290 is used to provide an indication of weekday ridership over the same period as with other modes. Although not perfect, this method provides a representative estimate of weekday ridership.

W The difference between these to estimates is described in the report Supplemental Draft (see Chapter 5, MBTA Service and Ridership: Trends and Projections, footnote #9).

X The 366 weekday riders refers to Providence, not South Attleboro. This figure has been updated to reflect 1989 statistics.

Y As previously stated, additional information on the methodologies used to derive ridership estimates has been added (see Chapter 5, MBTA Service and Ridership: Trends and Projections, Ridership Trends section). Also, an explanation of how trips are defined has been added (see Chapter 8, Impacts of the Fare and Parking Fee Increases, footnote #31). In summary, a trip is attributed to a mode based on where it begins. If it begins on the surface Green Line, it is counted as a surface Green Line trip even if it goes into the subway. It is counted as one unlinked trip. Also, any trip beginning on rapid transit is counted as one unlinked rapid transit trip, even if it ends on the surface Green Line.

Z The first row was mislabeled. It has correctly been labeled "unlinked trips" in the Supplemental Draft.

AA The differences are due to the use of two different methodologies, and have been explained in the Supplemental Draft (Chapter 5, MBTA Service and Ridership: Trends and Projections, Ridership Trends section).

U MBTA ridership has grown, an attempt should be made to identify the source of those gains -- new trips, diversions from private autos, or diversions from other transit carriers. It is possible that, under some scenarios, new MBTA riders actually result in an increase in vehicle miles traveled -- for example, if a commuter changes from a private carrier bus near his/her house to a commuter rail station some miles away.

V Table 5-2 (Page 5-11), Weekday Commuter Rail Ridership -- The source for this data is given as "Annual Passengers (from Table 5-3)/290." This methodology assumes that, for each line, 88% of annual ridership is on weekdays and 12% on weekends. But different commuter rail lines have different levels of service on weekends, and they also have different ridership patterns. The Rockport Line, for example, has extremely heavy weekend ridership, especially in summer, while some lines have no weekend service at all. This methodology is inaccurate and inappropriate and it should not be used in this report.

W Table 5-2 (Page 5-11) and Figure 5-1 (Page 5-12), Weekday Commuter Rail Ridership -- These two sources give inconsistent numbers. Adding up all the numbers on Figure 5-1, results in total ridership of 32,464, compared to 61,412 on Table 5-2. The Figure 5-1 number apparently shows only one-way ridership; but if it is doubled, the result is 64,928, still considerably different from Table 5-2. No explanation for this discrepancy is offered.

X Figure 5-1 (Page 5-12), Average Weekday Commuter Rail Ridership by Station -- Some of the numbers, such as for Rockport, Mishawum, and Wedgemere, are not legible. South Attleboro station shows 366 daily riders as of May 1988 even though as of this writing (November 1989) the station has never opened. Totals (both by line and division) should be included on the figure, but they have been omitted.

Y Tables 5-3 and 5-4 (Page 5-13), Annual and Weekday Rapid Transit and "Surface" Ridership -- As mentioned earlier, specific methodology(ies) and margins of error should be given for these tables, and "surface" ridership should be broken down by streetcar, local bus, and express bus. If a person boards a Green Line car on the surface and rides it into the subway, is this considered a surface trip, a rapid transit trip, or both? It is clearly one linked trip; but is it considered two unlinked trips because there is a change of mode (even though there is no change of vehicle)?

Z Table 5-4 (Page 5-13), Weekday Rapid Transit and "Surface" Ridership -- There are two different rows, containing different numbers, both labeled "Linked Trips."

AA Table 5-4 (Page 5-13) and Figure 5-2 (Page 5-14), Weekday Rapid Transit and "Surface" Ridership -- These two sources are inconsistent. Adding up all the numbers on Figure 5-2, results in total ridership of 385,800, compared to 423,625 on Table 5-4. No explanation for this discrepancy is offered.

AB This table has been updated to reflect 1989 data. The basis for estimating these numbers is described in Chapter 5 (MBTA Service and Ridership: Trends and Projections, Ridership Trends section.) Ridership data presented in Chapter 5 is for the purpose of providing historic perspective. The impacts of the fare increase is presented in Chapter 8 (Impacts of the Fare and Parking Fee Increases).

AC Most figures in this table were assembled from the October 1988 "Ridership and Service Statistics" report. The Supplemental Draft provides additional information on these figures (Chapter 5, MBTA Service and Ridership: Trends and Projections, Ridership Trends section).

AB

Figure 5-2 (Page 5-14), Average Weekday Rapid Transit Boardings by Station -- As mentioned earlier, specific methodology(ies) and margins of error should be given for these tables. In some cases it is not clear which number applies to which station: is "14,650" for State or Aquarium? The sets of numbers for Park Street and Downtown Crossing appear to give breakdowns by line. However, no explanation or methodology is given for these breakdowns; the Red Line figures (2,550 at Park Street and 3,850 at Downtown Crossing) seem absurdly low compared to the overall station boardings. No reason is given why line-by-line breakdowns are given only for these two stations, and not at other joint stations such as Government Center and State. No figures are given for Green Line surface ridership; this data -- especially for the Riverside Line -- is crucial for evaluating the impact of the fare increase and should be presented either on this figure or elsewhere in the Revenue and Service EIR. Finally, a total ridership number should be included on the figure.

AC

Table 5-5 (Pages 5-15 through 5-19), MBTA Weekday Bus Ridership -- No source or specific methodology is given for this data, and, more importantly, no date is given. Many, but not all, of the numbers appear to be taken from the MBTA's October 1988 "Ridership and Service Statistics" report. However, there are a few differences between that report and this table, and the present table does not appear to have been assembled with much care. The numbers given here for Buses 75 and 450 seem to be far off the mark given the nature of these routes. Also, Buses 5, 137, and 354 appear to have been omitted from this table. [The October 1988 report listed, for example, 973 daily riders for Bus 136 plus 1,149 riders for Bus 137; this table shows 973 riders for both.] Five routes (47 through 50) are repeated at the top of page 5-16, and an unexplained "Total 18,000" is printed on page 5-19, above the "Grand Total 398,000." (This 18,000 number is not the total of the routes on page 5-19.)

It is not clear how riders on through routes -- such as 53-304A, 400-455, and 440-441 are counted: are they included in just one route (and if so, which one?) or on both? Since these through routes are all express buses, this information is crucial to the assessment of the fare increase's impact.

AD

Pages 5-22 through 5-27, Estimation of Ridership Change of the 1989 Fare Increase -- Although the Secretary instructed that the "before" ridership data should be included in the draft Revenue and Service EIR, it is unclear whether it has in fact been included.

On page 2 of the Certificate Establishing the Scope, under "Schedule," the draft EIR is defined as "containing all sections of the scope that do not directly depend on the fall data gathering." Since the "before" data does not depend on the "after" data, it should be included in the initial draft. It is important that the "before" data be released for public review and comment before the "after" data is generated, in order to remove any suspicion of "cooking" the "before" data to make the ridership loss due to the fare increase appear smaller.

An initial reading of the draft Revenue and Service EIR leaves the impression that Figure 5-1, Figure 5-2, and Table 5-5 are intended to provide the "before" data. However, that data does not appear to jibe with the methodology given on pages 5-22 through 5-24. Is that data in fact the

AB This table has been updated to reflect 1989 data. The basis for estimating these numbers is described in Chapter 5 (MBTA Service and Ridership: Trends and Projections, Ridership Trends section.) Ridership data presented in Chapter 5 is for the purpose of providing historic perspective. The impacts of the fare increase is presented in Chapter 8 (Impacts of the Fare and Parking Fee Increases).

AC Most figures in this table were assembled from the October 1988 "Ridership and Service Statistics" report. The Supplemental Draft provides additional information on these figures (Chapter 5, MBTA Service and Ridership: Trends and Projections, Ridership Trends section).

AD "before" data, or not? This should be clearly stated in the draft Revenue and Service EIR. If the "before" data is not in fact included in the draft Revenue and Service EIR, this is a violation of the Secretary's instructions, and the draft EIR should be rejected until the data is included.

AE Page 5-24, "Before" Estimates -- The last sentence of the second paragraph -- "Rapid transit trips are sampled by station, rather than by trip, ..." -- is confusing and appears to be self-contradictory.

AF Pages 5-23 through 5-25, "Before" and "After" Estimates -- Green Line -- The MBTA apparently intends to present Green Line surface ridership data as a whole, without breaking the numbers down by line. Because the Riverside Line was subject to a fare increase while the other lines were not, data for the Riverside Line should be presented separately so that the impact of this aspect of the fare increase can be accurately measured.

AG Pages 5-23 through 5-25, "Before" and "After" Estimates -- Buses -- I question the MBTA's methodology of using fare mix surveys to estimate overall bus ridership, given that local buses and express buses have different fare structures, different operations, and different purposes within the transit system. Furthermore, local bus cash fares were not increased (although changes in the monthly pass system may affect local bus ridership), while express bus cash fares and monthly pass prices were both increased. It would be more accurate to calculate two fare mix surveys -- one for local buses and one for express buses -- and then to estimate ridership for each kind of use separately.

AH Pages 5-23 through 5-25, "Before" and "After" Estimates -- Local Buses -- The MBTA apparently intends to present local bus ridership data as a whole, without breaking the numbers down by route. Because changes in the monthly pass system affected some bus routes -- notably those in the Quincy and Newton areas -- differently than others, data for these routes should be presented separately so that the effect of this aspect of the fare increase can be accurately measured.

AI Page 5-25, "After" Estimates -- The fourth paragraph on this page makes a reference to "Section G," which is neither attached to the draft Revenue and Service EIR nor defined anywhere in it.

AJ Page 5-26, Commuter Rail Ridership Estimates -- The first whole paragraph on this page, beginning "At stations where counts were conducted ...," is confusing and should be rewritten in clearer language.

AK Page 5-26, Other Influencing Factors -- The MBTA's own outline, submitted March 27, 1989, included weather, gas prices, parking availability (both at MBTA stations and in downtown Boston), and highway detours as other

AK (Continued from the previous page)
Increases), the necessary information was not available over the short timeframe (Spring to Fall) that was examined. For example, there is no comprehensive of source of parking availability or traffic volumes on a month-to-month basis.

AL As always intended, this data has been included in the Supplemental Draft (see Chapter 8, Impacts of the Fare and Parking Fee Increases).

AM This section has been completely rewritten and expanded and now includes the information refereed to (see Chapter 9, MBTA Funding: Existing and Potential Sources).

AN Parking fees as a source of revenue have now been included (see Chapter 9, MBTA Funding: Existing and Potential Sources).

AO This information has been included in the Supplemental Draft (see Chapter 9, MBTA Funding: Existing and Potential Sources).

AP The issues raised in this comment have been addressed in general terms, and information is presented that can be used by the MBTA to plan subsequent fare changes (Chapter 11, Fare Structure Options and Fare Collection Issues). However, until that planning begins, it would be premature to perform more specific analysis of all alternatives. Further, the requested information and analysis is significantly beyond the scope of what was agreed upon in scoping sessions and with the RSAC.

AQ Park and Ride costs are a significant part of the total price of MBTA service for those who park at MBTA stations. However, only four percent of all MBTA rapid transit, bus, and surface Green Line trips fall into this category. Since the proportion is so small, the impact of parking fees appears small when parking fees are included in the analysis of fare levels. Instead, it is more effective to address parking fees separately from fares (but to consider combined fare and parking fee costs for park and ride patrons at the same time). Additional information on parking fees has also been included in the Supplemental Draft in Chapters 6 (MBTA Fares and Parking Fees) and 8 (Impacts of the Fare and Parking Fee Increases).

AK influencing factors, but these have been omitted from the present draft. They should be included.

AL Page 6-1, Impacts of the Fare Increase -- The MBTA's outline submitted March 27, 1989, included a section entitled "Identify disadvantaged and non-disadvantaged markets by volume and location." Since the identification of these markets is independent of the "after" ridership numbers counted in fall 1989, this section should have been included in the present draft.

AM Pages 8-3 through 8-10, Financing -- The draft Revenue and Service EIR describes existing revenue sources; however, it does not, as the MBTA's outline promises, describe "anticipated changes in these programs and projection for potential future revenue." This information should be included.

AN Pages 8-3 through 8-10, Financing -- The draft Revenue and Service EIR fails to include commuter parking fees as one of the MBTA's existing (and potential) sources of revenue, although the MBTA's recent parking fee increases indicate that the Authority itself considers these fees to be a revenue source. This portion of the draft EIR should be revised to include parking fees.

AO Pages 8-6 through 8-10, Future Funding Sources Options -- The draft Revenue and Service EIR has enumerated several possible options, but it makes no attempt to analyze those options in any detail. My understanding, based on comments at the Scoping Session on March 16, 1989, was that this section would evaluate each of these options in terms of potential revenues and impacts on the regional economy. The MBTA's outline states that these options would be "project[ed] for potential future revenue." This section should be expanded in keeping with the MBTA's earlier promises.

AP Pages 8-21 through 8-41, Fare Structure Options and Fare Collection Methods/Issues -- The MBTA's outline dated March 27, 1989 mentions "Minimize cost of revenue collection" as a policy objective of the MBTA's fare schedule. However, the draft EIR fails to address this issue. The EIR should document the costs of the existing system, including the costs of administration, collection, counting, fare evasion, pilferage, and slugs; and each of the alternative fare structures and new technologies described in these sections should similarly be evaluated.

AQ Pages 8-21 through 8-39, Fare Structure Options -- Many MBTA users drive to and park at or near MBTA stations; therefore, the price of parking at MBTA facilities becomes a significant part of the total cost of using transit. The draft Revenue and Service EIR briefly considers the impact of parking fees, in the last paragraph of page 8-27, but only with respect to North Quincy and Wollaston stations. Parking costs are in fact an integral part of the MBTA fare schedule and, as such, they deserve much greater attention than they have received in the current draft.

AR The issue of accepting dollars bills has been examined by the MBTA, and at this time, there are no plans to begin accepting dollar bills. While it is acknowledged that accepting dollar bill would make fare payment more convenient for many riders, it would also significantly increase the cost of revenue collection (at SEPTA in Philadelphia, which is a similar size to the MBTA, 15 additional employees had to be hired to handle dollar bills). Considering the additional cost and current fiscal constraints, acceptance of dollar bills is not being pursued. However, the installation of change and/or ticket machines for surface Green Line stations, and possibly high volume express bus stops, is being investigated. Also, ticket books are sold for surface Green Line and express bus service.

AS The commentor has apparently misunderstood this section. As stated, the inbound fare as far out as Newton Centre would be $1.50, but beyond that point would be $2.25, not $3.00 (the effective *round trip* fare would be $3.00). If implemented in conjunction with the installation of change/ticket machines, this system should not prohibit potential riders from getting on the train. (A similar system of change/ticket machines is used by Muni in San Francisco for cable car service, which has fares in excess of one dollar.)

AT This section is directed primarily towards the equity of the fare structure, and charging similar fares for similar services as is typically done on other MBTA services that serve short trips in economically disadvantaged neighborhoods.

AU A rider boarding an express bus with $2.00 should not normally be denied boarding. In these cases, most drivers will make exceptions and accept the bills.

AV This statement was not intended to imply that LRVs would be excluded and has been changed. Also, as described, the MBTA has decided not to pursue the purchase of equipment that would accept dollar bills at this time. As a result, the option of purchasing fareboxes that would accept dollar bills has been deleted.

AR Pages 8-21 through 8-39, Fare Structure Options -- The draft Revenue and Service EIR fails to adequately consider the "ease of use" of the existing fare structure and of proposed options, especially as regards exact change and dollar bill acceptance issues. As cash fares increase, it becomes more difficult for potential users to have an adequate supply of coins to pay the fare. Since neither change nor tokens are available at most Green Line and express bus stops, potential users who lack the needed amount of coins are effectively banned from the system. This factor must be considered in evaluating both the existing system and possible new fare structures.

AS Pages 8-36 and 8-37, Revised Green Line Fare Structure -- The system proposed here would double the fares required at those stations where only coins are accepted, at the same time that it would eliminate fare collections at attended stations. The fare to board an inbound Green Line train east of Reservoir would increase from 75 cents or 90 cents (current) to $1.50, and the fare to board an inbound Riverside Line train between Newton Highlands and Riverside would jump from $1.75 to $3.00. As noted in the preceding paragraph, this would effectively prohibit many potential users from even getting on the train. The MBTA's allegation that "this fare system would still be easy to use" is laughable.

AT Pages 8-37 and 8-38, Revised Mattapan Line Fare Structure -- The draft Revenue and Service EIR fails to consider that the Mattapan Line is extremely short, that it operates essentially as a bus (even though it is on rails), that there are only a handful of local riders, and that many of the persons served by the line are economically disadvantaged. Given the low local ridership on the line, the cost of transfer machines and other physical changes needed to implement this system might easily outweigh any additional income.

AU Page 8-39, Fare Collection Methods/Issues -- In the first paragraph under this heading it is stated that "Cash is accepted on all buses at all times for all fares." This is untrue. A commuter who wishes to ride an express bus with $1.90 fare, and who presents $2.00 in cash (dollar bills), will be denied boarding. The statement should be revised to state that "Under certain circumstances, cash is accepted...."

This paragraph also fails to mention that at most Green Line surface stops and stations -- including Science Park and also including Lechmere at certain hours -- coins (cash) are in fact the predominant method of paying fares. Although tokens (and tickets on the Riverside Line) are accepted on the vehicles, they are not sold at or near these stops and stations.

AV Page 8-40, Fare Collection Methods/Issues -- At the top of this page, under the possible future options, are listed "Electronic fareboxes on buses that would dispense transfers and accept dollar bills." First, I question why the draft EIR proposes to install these fareboxes only on buses and not on streetcars, where dollar bill acceptance is more important than on most buses (at current fare levels). Second, at the Scoping Session on March 16, 1989, MBTA Operations officials said that fareboxes which accept dollar bills are not compatible with existing fare collection equipment in MBTA bus

AV Comment response on the previous page.

AW A comprehensive analysis of all possible fare collection methods would require an effort as large as or larger than the preparation of this report. The scope of this EIR is very broad in that it examines a much broader range of issues than would typically be included in an EIR. One of the trade-offs that results from the broad scope of work is that some issues cannot be addressed in as much detail as they would be if addressed separately.

Further, the analyses included in this report are intended to provide the MBTA with information that can be used as a basis for future planning efforts. Until that time, it would not be cost-effective to perform more detailed analysis of these issues.

AX We are not aware of any documentation to support this theory.

AY Previous comments are addressed separately in this appendix.

AV garages and streetcar facilities. Some clarification of this point appears in order.

AW Page 8-40, Fare Collection Methods/Issues -- In the last paragraph on this page, it is stated that "a cost analysis was not performed as part of this study." My understanding, based on the Scoping Session on March 16, 1989, is that this study would include a cost analysis of the new technology options listed under this section as well as a discussion of the advantages and disadvantages of each option. I am very upset that this portion of the study has been omitted, as I believe that this was an important part of the Revenue and Service EIR which the MBTA promised to prepare.

AX Appendix, (Projected) Estimated Ridership Change -- As I have noted above, the fact that dollar bills are not accepted on MBTA streetcars and buses means that a large percentage of potential riders are effectively banned from the system as cash fares increase above $1.00. This effect becomes more pronounced as fares increase even higher. As a result, elasticities can become significantly non-linear, creating an additional factor which has not been considered in these calculations.

AY Comments with respect to this reviewer's earlier comments -- In February and March, 1989, I made extensive comments on various aspects of the proposed MBTA fare increase and on the EIR process for the fare increase. According to the Secretary's Certificate Establishing the Scope, April 5, 1989, these comments should have been attached to the draft Revenue and Service EIR, with the MBTA's responses to each of my specific comments.

Some of my comments are now moot, insofar as they involve either the fare increase process at that time or the changes then being proposed in the monthly pass program. (As an aside, I must compliment the Authority on the pass program which it ultimately adopted.) However, many other comments are still relevant. A copy of my letter of March 30, 1989, is attached; and I specifically wish to call attention to the following items, which still deserve attention:

--Measurement of service quality -- headway variance and other possible service quality measurements.

--Riverside Line fares -- justification for extra 15-cent and 25-cent charges; analysis of revenue generated by these charges; analysis of cost of collecting revenue; analysis of impact on ridership; calculation of estimated increase in basic token price needed to make up for revenue loss if this fare anomaly were eliminated. [The "Revised Green Line Fare Structure on pages 8-36 and 8-37 of the draft EIR is exactly the opposite of my proposal, which calls for reducing the 90 cent and $1.75 Riverside Line fares to 75 cents and $1.50 respectively.]

--Other passes -- analysis of implementation costs and ridership impacts of MBTA's new "Boston Passport" program, as well as possible other kinds of weekly, etc., passes.

--Mitigating measures -- including dollar bill acceptance, additional token sales locations (i.e., at Green Line stops), additional pass sales locations, and improved public information. In particular, costs or other reasons why dollar bill acceptance is not feasible should be documented, and alternative means of making the transit system accessible to those who do

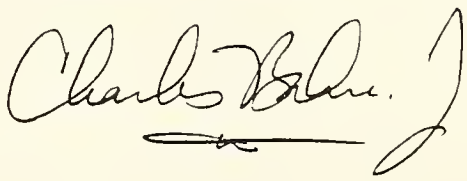
not carry large amounts of coins should be proposed.

--Fare policy -- suggested outlines for future fare increases, especially including relationships between fares on different modes.

--Procedures for future fare increases -- propose and commit to public information and comment procedures with respect to future fare increases; announcement of fare increases (including pass prices) on different modes all at once instead of over a period of months.

Thank you for the opportunity to comment on this document.

Sincerely yours,



RESPONSE TO COMMENTS
MBTA ADVISORY BOARD
ANNE LARNER
NOVEMBER 22, 1989

A Due to the short timeframe for completing a Final Environmental Impact Report (FEIR) for this project (three months after ridership compilation), the schedule provided for preparation of a draft EIR prior to data compilation to be followed by a supplemental draft EIR. The October draft EIR was a preliminary document prepared for the purpose of soliciting public comment to better identify issues. For these reasons, the October draft was less complete than would normally be expected.

MBTA Advisory Board
120 Boylston Street, Suite 504, Boston, Massachusetts 02116 Tel. 617-426-6054

November 22, 1989

John DeVillars, Executive Secretary
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02108

Dear Secretary DeVillars:

The committee formed by the Advisory Board to review the Draft Environmental Impact Report on the 1989 MBTA Fare Increase (EOEA No. 7551) asks you to reject the draft as presented.

The committee feels the report does not meet the requirements set forth in the Secretary's Certificate on the Environmental Notification Form, nor does it meet the scope subsequently issued by the Secretary. We recommend that the MBTA be required to submit a revised draft Environmental Impact Report.

A

Specifically, in the committee's view the MBTA failed to adequately address the following areas:

- o Financing policy and practice, both at the T and at other comparable agencies;
- o The environmental impacts of the fare increase on noise and air pollution and its effect on the region's mobility;
- o How the T will adequately and accurately assess pre- and post-fare increase ridership changes.

Crucial information is missing from the report. The Draft contains an abundance of irrelevant and at times inaccurate information. It is our review committee's opinion that a comprehensive revision of the Draft is necessary to meet the requirements of the ENF Certificate.

A full discussion of the report, with an appendix of errata, is enclosed.

Sincerely,

Anne M Larner

Anne M. Larner
Executive Director

encl.

Response to the October 5, 1989 MBTA Draft Fare EIR

from

MBTA Advisory Board Fare EIR Review Committee

Review Committee		Staff
Susan Bregman	(Boston)	Anne M. Larner
Loraine Dunn	(Braintree)	Executive Director
Edmund Tarallo	(Malden)	
Mary Ann Ward	(Hingham)	Robert Blake
Jody Young	(Newton)	Operations Analyst

B Additional information has been added that addresses MBTA costs, subsidy levels and alternative funding sources (see Chapters 9 (MBTA Funding: Existing and Potential Sources) and 10 (Revenue Recovery Issues)).

MBTA Advisory Board Response

"MBTA Revenue and Service Environmental Impact Report"

Introduction:

A sub-committee of the MBTA Advisory Board was formed to review and comment on the draft "MBTA Revenue and Service Environmental Impact Report" ("DEIR"). The Committee found the MBTA response to the Secretary of Environmental Affairs' charge to be unfocused and in large part irrelevant to the main mission of the EIR: to assess the environmental impacts associated with the recent MBTA fare increase. Throughout the Draft EIR extraneous material is included which does not address this central issue; at the same time, a number of important factors have been ignored. The committee asks the Secretary to reject the DEIR as presented.

B It is important to address the question "what would result if there were no fare increase?" Several factors other than maintaining low transit fares inhibit, and in the future will further inhibit, stable financing of MBTA operations: the limited federal involvement in operating mass transit systems; the declining fiscal situation in Massachusetts (and the resulting reluctance to commit scarce state dollars to mass transit); and Proposition 2 1/2, which caps assistance provided by the cities and towns. Between FY 1984 and FY 1990 state assistance to the MBTA (deficit plus contract assistance for debt) has grown at almost two times the rate of the T's operating budget. It is the committee's strong belief that without some combination of stable funding sources (including periodic fare increases, a method much discussed by various Advisory Board committees) the T will be forced to cut service and defer necessary maintenance, making transit less attractive to riders. For many

C The environmental impacts of the fare and parking fee increases, including ridership changes and shifts between modes, have been included in Chapter 8 of the Supplemental Draft (Impacts of the Fare and Parking Fee Increases). Ridership changes resulting from the fare increase and from the parking fee increases are presented separately.

D The concern that the timeframe for analysis of ridership changes was not adequate is legitimate for impacts of the parking fee increases. The schedule for the EIR required the use of parking lot usage data collected only one month after the parking fee increases were implemented. As

commuters, the quality and level of transit service provided is just as important as its price. This is not addressed in the EIR.

Important Environmental Questions Not Answered

A good Environmental Impact Statement can be an important planning tool. It can provide a model for future action. The MBTA's DEIR misses the opportunity to create this type of tool. In addition to taking exception to the approach taken in the T's DEIR, the committee found numerous factual errors and misstatements. A page by page errata and comments sheet is attached as an appendix.

The EIR does not answer the most important questions raised in the original scope drawn up by the MBTA and accepted by Secretary DeVillars. While some answers will depend on data gathered in the Fall, there is little indication in the EIR at hand what types of information will be provided in the supplementary volume. A list of information the committee feels must be provided comprises the last section of this response. This information would help answer questions such as: What exactly were the environmental impacts of the recent MBTA fare increase? How did the increase affect the T's ridership, if at all? Did the increase force some T riders into less acceptable methods of transportation, or shift riders from one mode of public transportation to another? Did the increase force any T riders to abandon altogether trips they may have wanted to take? What environmental changes did the increase trigger - how did it affect air quality, noise pollution, the time commuters spend in their autos and on T vehicles? Did the fare change decrease, in any way, the mobility and therefore the vitality of the region?

C

There is no assurance that changes in ridership patterns caused by subsequent MBTA actions (increasing parking fees and soon-to-be enacted service cuts) will be evaluated separate from ridership changes stemming from

D

D (continued from previous page)
pointed out in the Supplemental Draft (Chapter 8, Impacts of the Fare and Parking Fee Increases), this may have resulted in an overstatement of ridership losses attributable to the parking fee increases. On commuter rail, all parking fees have not yet been implemented, and "after" data was not yet available at the time the Supplemental Draft was prepared. However, the timespan between before and after ridership counts to determine the impacts of the fare increase was eight months for commuter rail, and six to seven month on rapid transit, the surface Green Line and buses. It is believed that this timespan was adequate for the travel market to adjust to price changes.

E Because of the size of the MBTA, it is not cost-effective to actually count all riders. Instead, sampling procedures are used to estimate ridership. As discussed in Chapter 7 of the Supplemental Draft (MBTA Service Monitoring and Ridership Estimation Procedures), for each project requiring ridership data, sampling procedures are designed to provide the required level of accuracy.

F The presentation of MBTA policies, service guidelines and practices has been completely rewritten (see Chapters 3 (Policy Framework for the MBTA) and 4 (Description of Existing MBTA Service)).

The circumstances leading to the 1989 fare and parking fee increases are now included in a revised introduction (Chapter 2) and in Chapter 10 (Revenue Recovery Issues), which examines a 33 percent recovery ratio.

the fare increase. Similarly, there is some concern on the part of the Committee that the time frame given for studying these ridership change is not long enough, and that the change in the entire ridership picture will only emerge after a longer period of time has elapsed.

D

Ridership Data Collection

The Advisory Board's long-standing reservations about the T's faulty data collection system and process were reinforced after reading the EIR. It was disappointing to read the familiar list of hindrances to accurate, meaningful data collection and analysis without seeing suggestions for improvements that could be made. The MBTA relies on many assumptions and estimates that may be of little value. Data collected through sampling by the MBTA is often "adjusted" by relationships or patterns more than ten years old, which further erodes the committee's confidence in MBTA figures.

E

In addition, there is no discussion of how non-fare related MBTA factors influence ridership. Maintaining the lowest fares in the country is not the only way to lure riders onto the system and may not be the most effective. Alternate ways of increasing ridership, such as expanding and improving marketing efforts, were not discussed in the DEIR.

MBTA Policy and Practice

The DEIR presents a number of service policies, such as the 1977 Surface Service Policy, which are rarely consulted or enforced. Such "standards" are meaningless when service provided is not measured against them. Other policies, such as the list of MBTA "policies" designed to attain a variety of management and social goals, are described in the DEIR but are irrelevant to a meaningful discussion of fare increase environmental impacts (see Chapter 2 of the DEIR.)

F

G Decisions on fare increases are based on factors such as ridership trends at the time and financial constraints. Within this context, fare increases have been addressed as needed. The process for review of the fare structure is being addressed further in an MBTA report on financing which is being prepared in response to recent legislation.

H The MBTA Advisory Board 33 percent farebox recovery policy has been restated as presented by the Advisory Board, and the analysis of a fare and revenue recovery ratios has been completely redone (see Chapter 10, Revenue Recovery Issues). Also, the section of alternative funding sources has been significantly expanded (Chapter 9, MBTA Funding: Existing and Potential Sources).

The report neglects to describe the process the T has in place to review its fare structure. Chapter 8 promises to analyze benefits provided by the MBTA and discuss financing of the system but does neither in a thorough manner. The MBTA should review how a public benefit is priced and how to discern whether a public benefit may be over- or underpriced. In Chapter 8 there is, in general, an inadequate analysis of public vs. private benefits and theories of pricing each. G

The reader has no idea which factors, when reviewed, might trigger a fare increase. It would appear that the T has no such policy or list of factors in place. Without this foundation it is difficult to assess the merits and the effects of fare increases on the system. The DEIR also ignores discussion of the political framework within which decisions on fare increases are made. An analysis of the political factors which affect fare increases is essential to a meaningful DEIR.

The MBTA Advisory Board has maintained a policy since 1985 which states that fares should cover a <u>minimum</u> of 33% of operating expenses. Since FY87 the MBTA has been unable to cover 33% of its operating costs from fare income. Even after the 1989 fare increase fares will cover only 29% of operating expenses. This Advisory Board policy is given much space in the EIR but is neither accurately presented nor fairly analyzed. Emphasis on refuting the Advisory Board policy is a red herring which draws attention away from the T's failure to articulate its own policy or to address the key issues of financing. The Advisory Board feels that having a minimum fare recovery ratio target keeps pressure on the Authority to run an efficient, cost-effective service and to increase productivity. H

The DEIR should show fare recovery ratios at other transit authorities. It is the understanding of the committee that fares cover a significantly

I Alternative methods of financing MBTA services are addressed in Chapter 9 of the Supplemental Draft.

larger portion of operating expenses at most other Authorities. As is stated in the DEIR, fare recovery ratios are just one measure of cost effectiveness but it is an important one. The DEIR should provide other measures of cost-effectiveness and productivity, especially measures currently in use at other agencies. From this, the MBTA could examine whether agencies with fare recovery requirements are more or less cost-efficient than the MBTA.

Again, the key question is future financing of the MBTA. Fares will have to play a significant part. The Statement of Intent indicates a range of alternatives to raising fares will be presented and analyzed, yet none appears in the draft reviewed by the committee. Nor are any alternatives promised in the second submission.

J Most of the information requested would provide interesting background information, but would require large time consuming data collection efforts and was not necessary to determine the ridership impact of the fare increase. For example, information on the overall Spring 1989 traffic picture, automobile occupancy rates, level of congestion figures, capacity of area roadway information is not readily available for the MBTA district. Collection of such data for the springtime period would have required a very intense and costly effort.

K Air quality impacts of the fare increase are addressed in the Supplemental Draft (see Chapter 8, Impacts of the Fare and Parking Fee Increases).

L Socioeconomic impacts of the fare increase are also addressed in Chapter 8 of the Supplemental Draft.

M Impacts of the parking fee increases are also presented in Chapter 8.

Missing Information and Analysis

At a minimum, the committee would like to see the following included in the supplemental DEIR submission:

J

1. Background and baseline information on the overall Spring 1989 traffic picture, including information on automobile occupancy rates, load factors for trains and buses, level of congestion figures, capacity of area roadways, etc.

K

2. Background and baseline information on air quality for the Spring of 1989. Generic information on the relative negative impacts of cars, buses, trains, etc., on air quality. Effect of transit practices on air quality, such as idling buses and trains.

L

3. Background and baseline information on the socio-economic makeup of T ridership, including levels of transit dependency, frequency of use of various components of the MBTA system, and some estimation of origin-destination patterns, especially any data or estimates the T has indicating important new and/or growing origins and destinations; i.e., post 1978 housing/industry developments in Charlestown, the dramatic post 1978 growth in suburban and inner suburban office/retail developments, and the downtown Boston employment and building boom of the last six years.

M

4. Comprehensive information on parking: capacity, demand, rates, rate increases, socio-economic data on park-and-ride patrons.

N Actual figures are now included for FY 1989 (see Table 2-1).

O The cost figures presented for the arbitration award are now consistent with those presented in the supplemental budget request.

P Although cities and towns pay local assessments based on the previous year's deficit, MBTA budgets are based upon the "current" year local assessment levels. Figures in the report were based upon "current" year local assessment levels but were converted to a fiscal year basis. To avoid confusion, the Supplemental Draft now uses calendar years (CY) through 1983, and fiscal years (FY) after that time.

Q These numbers have been updated based upon the supplemental budget request.

R MGL 161A Section 5 is not referenced specifically in the report. However, as discussed in Chapter 3 (Policy Framework for the MBTA) of the Supplemental Draft, many MBTA policies, goals and objectives are aimed at reducing costs, while others are directed towards increasing ridership. The MBTA attempts to achieve a balance between the two.

S As previously stated, budget figures have been changed to a calendar basis through 1983, and a fiscal year basis after that time.

T This sentence has been rewritten. However, MBTA fare policy, as are those of nearly all transit systems, is inherently contradictory. Fares need to be set at levels that create a balance between the need to maximize ridership (which implies low fares), and the need to generate revenue to offset operating costs (which implies high fares).

APPENDIX

Chapter By Chapter Comments

N Page 1-2 (Table 1-1) FY89 should be actual rather than budgeted figures to be consistent.

O Page 1-3 Labor costs for FY90 - from arbitration - are $37.5 million according to MBTA Staff Summary presented at 8/9/89 meeting of T Board of Directors. The budgeted amount for FY90 was $19.4; the gap, $18.1M.

P Page 1-3 The cited % of T costs covered by cities and towns (24% - FY81; 16% - FY87) is confusing and inaccurate. In any fiscal year the cities and towns pay an assessment on the previous calendar year's MBTA deficit. In FY81 the cities and towns paid 29.9% of the total cost of CY79 T service. Since the T did not switch to fiscal year budgeting until FY84 the reference to FY81 most likely refers to the period in which the towns paid - not the period of the T budget. Twenty-six percent (26%) of the T's CY81 budget was paid (in FY83) by the cities and towns.

In FY87 cities and towns paid 22.7% of the total costs of CY85 T service. FY87 T costs were assessed approximately half in FY88 and half in FY89. In FY88 cities and towns paid 21.7% of total T costs; in FY89 cities and towns paid 20% of total T costs. At no time have communities paid only 16% of T costs.

Q Page 1-3 (Bottom) There has not been $30 million in operating cost reductions in FY90. Reductions have been projected at approximately $4 million according to the above-mentioned 8/9/89 Staff Summary.

R Page 2-1 Goals and Policies fails to site MGL 161A Sec 5. The draft report fails to address or note MGL 161A Sec 5 (d) regarding fares on express service ... "The Authority shall operate its express service so far as practicable, in such a manner that no net cost of service exclusive of debt service shall arise on account of such express service in any year. In addition the Authority shall operate all its service in such manner as to produce the highest return consistent with the Authority's obligations under subsection (a)."

S Page 2-5 (Middle paragraph) As noted above in 1981 the T did not use a fiscal year. In CY80 fares covered 18.5% of total T costs. In CY81 fares covered 22.6% of total T costs.

T Page 2-5 (Bottom) Fare Policy "The MBTA believes that fares ...." This sentence is not clear, it appears to be internally contradictory. The statement of T policy on fares is critical to the study. It needs to be clear, precise and easily understood by the average informed reader.

U The Advisory Board's policy has been revised consistent with description provided by the Advisory Board.

V This description has been expanded.

W This section, which is now included in Chapter 4 (in the "Service and Performance Guidelines" section), has been significantly expanded and now includes a description of the process the MBTA uses to evaluate bus service.

X A footnote has been added to this table (Table 4-9 in the Supplemental Draft) to provide further explanation.

Y As stated in the Supplemental Draft, rapid transit service is capacity constrained during peak periods, and loading standards are often exceeded. Measurement of this crowding lead to the extension of platforms on the Red and Orange Lines, as well as plans to extend Blue Line platforms, to accommodate six-car trains.

Z Policy headways refer to a minimum level of service. As stated in the draft report, peak period rapid transit service is capacity constrained. Given this situation, service is operated as frequently as possible.

Since the standards for community-based and regular route services have always been the same, the MBTA no longer distinguishes between the two. As result, the two types of service have been combined in the Supplemental Draft (now Table 4-11).

AA The statement that the MBTA plans to retain current bus service rather than to reinstate trolley service is consistent with current MBTA plans.

AB The bus corridor studies do address latent demand within each corridor, as stated in the draft. This is done as part of a "market analysis" included in each study. Also, as is now stated in Chapter 4 of the Supplemental Draft (Description of Existing MBTA Service), the MBTA intends the bus studies to be a continuing process, and the MBTA is re-examining routes evaluated in previous corridor studies.

AC The seven corridor studies that have been completed are available for public review and may be obtained from Service Planning.

AD The Advisory Board is correct that economic performance measures are not calculated on a quarterly basis. This has been corrected in the Supplemental Draft.

U Page 2-6 (Mid-page) Attached is a copy of the Advisory Board action in December 1988. The Advisory Board first approved a minimum 33% fare recovery ratio (FRR) in 1985. Other than a specific resolution passed in December 1986 relating to the FY88 Budget, wherein the Advisory Board temporarily waived its 33% FRR policy to allow for an adjustment period following the opening of the Southwest Corridor, the Advisory Board has maintained a consistent position supporting a minimum 33% FRR.

V Page 2-8 Objective (2) on the top third of the page is unclear. Language needs reworking.

W Chapter 3 Makes extensive use of the MBTA's 1977 "Service Policy for Surface Public Transportation". Interestingly, it fails to quote from pages 43-44 of that volume which lay out a process for quarterly, biannual and annual review of surface performance by route - with a process for remedial action for routes falling below standard. Such a process has not been in place for at least eight years.

X (Table 3-1) What specifically constitutes linehaul? We are not aware of any bus or trackless trolley lines scheduled for NO standees during peak. Turnpike express buses regularly run with many standees.

Y (Table 3-2) The Advisory Board has no record of the T ever measuring the percentage of cars which run with a greater number of standees than load standards allow.

Z Page 3-4 (Table 3-3) It is not clear why there are no policy headways for peak period on the Green Line, Red Line, Blue Line and Orange Line, which implies that loading standards supercede headway standards. Presumably each standard influences the other if ridership is known. Also, a definition of "regular route" and "community-based" services should be provided.

AA Page 3-8 (Mid-page) re: Watertown Trolley statement that the T plans to retain current bus service rather than restore trolleys is NOT consistent with recent published statement from T Public Affairs that NO decisions have yet been made.

AB Page 3-9 (Bottom) Route Alignments It is our understanding that the corridor studies only deal with area residents who are already bus riders and do not assess latent demand within each corridor. The impression created by the descriptions on pages 3-9 and 3-10 is very different. Also, these corridor studies are not regularly updated, even when substantial transit-related changes occur in each corridor. When the Red Line was extended to Alewife and the new Southwest Corridor of the Orange Line opened the affected corridors were not re-evaluated.

AC Page 3-10 If seven corridor studies have been completed they are not yet available for review by interested members of the public.

AD Page 3-20 Route Revenue Data - second sentence. "Allocation of revenue to each bus route is calculated based on factors reflecting the percentage of the rating station collections from each route." The Advisory Board has long been

AE Typically, peak load pointchecks have taken for all routes at least once per quarter. However, the MBTA is now beginning to substitute ridechecks for many pointchecks, and these may be done on a less than quarterly basis.

AF This has been corrected.

AG A description of these tickets has been added to the Supplemental Draft. (The actual cost of the 10-Ride ticket for $1.75 trips is $16.50, not $16.00.)

AH This paragraph has been clarified.

AI This chapter has been expanded to provide additional information and explanation on available MBTA ridership data. Chapter 7 (MBTA Service Monitoring and Ridership Estimation Procedures) also describes the methods used to estimate ridership.

AJ This has been corrected.

AK The MBTA is currently in the processing of modifying turnstiles (replacing mechanical counters with electronic counters) to improve reliability over the short term, as well as investigating other long term changes.

AL The intention is to continue to perform these counts each year.

AM Estimates are derived using the MBTA's estimate of annual ridership divided by a factor of 290, except in the case of the Needham Line which did not operate for the full year, and was estimated using a factor of 55. These factors represent the average relationship between annual and weekday ridership for all lines combined.

AN This has been corrected.

AO Information has been added to the Supplemental Draft describing the source of information for all estimates and the method used to derive each estimate.

uncomfortable with the accuracy of the allocation process. The quarterly "readings" by drivers have by the T's own admission been unreal and/or non-existent. Patterns of ridership and payment of fares have changed considerably throughout the decade.

It is also our understanding that no calculations are regularly done of economic performance measures from the quarterly summaries.

AE Page 3-21 It is not clear that peak-load point counts are taken once each rating period (quarterly) for each route.

Chapter 4 This chapter points out how the system goal of being easily understood by all riders may not have been fully met.

AF Page 4-1 "July 1, 1989: Rapid Transit and express...": Fares did not increase July 1. Only the cost of monthly passes increased.

AG Page 4-7 Fails to include pink 10-ride ticket for the $1.90 express bus - sold for $18.00 and the green 10-ride ticket for the $1.75 Riverside line, sold for $16.00.

AH Page 4-7 (Top) Quincy-Adams & Braintree - confusing paragraph. The discount on pass has increased - not savings.

(Sentence beginning) "Compared to the cash fare increase, ..." is unintelligible.

AI Chapter 5 Ridership The experience of Advisory Board members and staff indicates that direct ridership counts - or even adjust estimates for specific routes are not readily available. This chapter should reflect reality - not theory on ridership data

AJ Page 5-2 and elsewhere "Turnstile" is repeatedly misspelled.

Page 5-2 The report should recommend improving equipment and maintenance so turnstiles don't malfunction so often.

AL Page 5-2 (Paragraph 2) Do they count rapid transit ridership every April? The Advisory Board understands this practice only began in April, 1988.

AM Page 5-11 We don't understand the source referenced. The data does not appear consistent with our records.

AN Page 5-13 In Table 5-4, line 3 should read "Total Unlinked Trips" instead of "Total Linked Trips".

AO Page 5-15 to 5-19 (Table 5-5) Ridership data is not dated or clearly defined. It appears to have been taken from "Ridership and Service Statistics", Oct. 1988 which we understand includes various bus ridership counts covering different routes in different years. A total for such a multi-year listing is

AP A baseline of 1983 (the first full year following the last fare changes) has generally been used for ridership changes. In cases where a different timeframe was used, it was because of some significant event or events, and is used in conjunction with figures from 1983. This is the case with commuter rail: significant improvements were implemented in 1986 and this was reflected in large ridership increases. Therefore this information was included to explain the large jump in ridership since 1986, and is in addition to a description of the ridership change since 1983.

AQ This description has been rewritten to improve clarity.

AR The estimate of *one way* trips for the year 2000 is 13,000 to 15,000 passenger trips.

AS This has been revised.

AT This has been clarified.

AU These figures are included in the Supplemental Draft.

AV As previously mentioned, budget figures have been revised to a calender basis through 1983 and a fiscal year basis after that time. The numbers have been revised to reflect this change.

AW This has been corrected. Also, in the Supplemental Draft, when actual dollar amounts are not included in accompanying tables, they have been included in the text when percentages are used.

AX This figure has been included in the Supplemental Draft.

AY This section has been expanded (see Chapter 9, MBTA Funding: Existing and Potential Sources).

AZ This section has been significantly expanded and funding and financing issues are now included as a separate chapter (Chapter 9 in the Supplemental Draft, MBTA Funding: Existing and Potential Sources). An assessment of each of the factors included in the comment has been included.

meaningless when the timeframe for the figures is as wide as six years. If the table has a place here, the numbers and time period need to be clearly defined.

AP Page 5-21 (Mid-page) Using 1986 as base year for a comparison of commuter rail ridership is not reasonable. In addition to the noted service increases in 1987-88, 1986 saw an extended strike on the North side of the CR system. Thus 1986 ridership was abnormally low. 1985 and '84 also saw disruptions on the North side due to two bridge fires.

AQ Page 5-22 to 5-23 (In the three paragraphs beginning) "The major mechanisms..." the word "estimate" appears sixteen times and the word "adjustment" four times. The reader is left with an impression of "guesstimate".

AR Page 7-7 All MBTA studies to date indicate restoration of Old Colony service will attract 15,000 new daily riders, not the 22,000 presented.

AS Page 8-1 The first sentence should be changed. Fares were changed (lowered) in 1982.

AT Page 8-2 #5: Should be "thus offering a TEMPORARY 37% savings for pass users."

AU Page 8-2 #8 Appears to indicate that baseline counts are contained in this Draft. They are not.

AV Page 8-3 (Mid-page) See comments re: T fiscal years and accuracy of numbers for Page 2-5 and 1-3.

Also, inconsistent figures re: fares vs. percentage of costs for "FY81" 39% on page 2-5: 30% on page 8-3.

AW Page 8-5 Other Existing Revenue Sources ".06%" should be 0.6%. Because no numbers are used in this section, a reader must have outside information to pick up such mistakes. In most cases numbers should be given along with percentages. Just listing percentages makes the EIR weaker and less meaningful.

AX Page 8-5 Fare Revenue: The commuter rail ridership change (from 1982 to 1989) is left blank.

AY Page 8-6 How will the MBTA increase advertising income through MBTA marketing efforts?

AZ Page 8-7 to 8-9 Survey of taxes is superficial. This section needs more documentation, consideration of the political feasibility of each tax, competition for each tax, administrative ease of implementing each tax, ability of each tax to respond to economic ups and downs. More comprehensive data on taxes used by other systems.

BA Operating cost figures have been revised based on the approved supplemental budget request.

BB This section has been completely redone based on the Citizen's Advisory Committee, Advisory Board and other comments. This analysis, which has been significantly expanded, is now included as a separate chapter (see Chapter 10, Revenue Recovery Issues).

Also some discussion on pros and cons of dedicated tax streams vs. appropriation from general revenues.

BA Page 8-10 MBTA Operating Costs - T operating budget for FY90 is $629.6M not $618M - it is a 9.3% increase (not 7.2%) over FY89.

Page 8-15 Paragraph starting "Furthermore, the fixed recovery ratio..." is unsupported by data or analysis. How does the MBTA "adjust" its revenue stream? How does the MBTA determine what is "the lowest fare possible"? Historically, no "new revenue source", except for increased fares, has provided the Authority with meaningful amounts of revenue. If having a "formula" (such as a minimum 33% FRR) is considered "simplistic", what alternatives are preferred by the MBTA?

Page 8-15 (Bottom paragraph) A major impact of having any fare or of ever raising fares is the possibility of lower ridership. Why not a free system? The MBTA should wait for 1989 data to be analyzed before speculating about impacts. The accuracy of the T's elasticity formulas should be the issue here.

Page 8-16 (Top of page) References to Table 8-2 and 8-3 are backwards.

(Tables 8-2 and 8-3) Assumptions are not clear. Why are CY 'budgets' projected when the T budgets on a fiscal year? The projections on a CY, the lack of any documented assumptions, and the failure to include the 1989 Arbitration Award make the numbers meaningless. To illustrate this point - Using official CY89 current projected FRR using the October 2, 1990 Official Statement for $120M in T notes is 29%. The FRR for the T's proposed FY91 budget is 28% - both these assume fares held at current levels. The cited, public, subject-to-scrutiny figures are quite out of line with Tables 8-2 and 8-3.

BB

In addition there is no discernible reason why Table 8-2 increases subway and Green Line fares again without touching bus fares until 1994. This scheme leaves bus fares constant for 13 years while rapid transit fares increase four times. The T needs to look at a variety of fare structure alternatives.

Table 8-2 line 8 has 1990 unfunded debt at $17.5M; Table 8-3 line 8 has unfunded debt 1990 at $11.0M - Why?

Page 8-19 to 8-20 Cost of Implementing a Fare Increase is inappropriate as written. The section should contain the statement of implementation costs and leave out subjective appraisals of the pr efforts. Also, this discussion shows how inexpensive fare increase implementations can be, which contradicts earlier sentiments that the costs of raising fares are usually very high.

This whole section is comprised of undocumented conclusions - not analysis.

How does a FRR requirement result in "significant disruption" to service.

BC A comparison of fares at the MBTA and at other comparable transit systems was shown in Tables 8-6 and 8-7. In addition, the fare increases that would be required to absorb the cost of a free transfer system were calculated later in the same section (pages 8-32 through 8-34 of the October draft). These figures show that the lack of free transfers does, in fact, allow *base* fares to be set at relatively low levels, but that when the cost of transfers is included, MBTA fares are generally comparable to other systems. (This information has been moved to Chapter 11 of the Supplemental Draft (Fare Structure Options and Fare Collection Issues).)

BD The comment is not clear (Table 8-2 does not relate to the fare structure).

BE The draft report identified a number of fare collection options. These are now being further examined by the MBTA to determine if changes could result in improvements.

BF The comment on page 8-28 refers only to zoned bus routes, which make up a very small percentage of all MBTA service. There are no indications that fare evasion is high on most MBTA service.

BG The 22 percent figure is based on surveys conducted at Alewife Station in the Fall of 1986 for the "Alewife Before/After Study," CTPS, December 1987.

BH The figures quoted are from CTPS' Regional Transit Model.

BI The draft report does provide an assessment of the existing fare structure and a range of alternatives. The options presented are flexible, and as stated in the report, could be implemented separately or in combination with others.

On what basis should it be decided to increase subsidies rather than to raise fares? This contradicts many earlier discussions about declining state finances.

How has the absence of a FRR requirement affected the availability of capital funds to "upgrade the system" as stated in this paragraph?

Page 8-21 (Top - summary paragraph) The issue of political pressure on the T not to review fare levels is never addressed.

The Authority initiates fare reviews and changes. Should it also be the body to decide how high a subsidy should be forthcoming and what priority - subsidy or fare increase - is higher?

(Paragraph) "No free or discontinued transfers are..." should be rephrased. There are numerous exceptions listed two paragraphs later.

BC Page 8-22 Paragraph three isn't verifiable. Need more information on transit patterns and comparable rail/surface networks for each transit agency.

Questions, reservations about Fare Policy Objectives:

BD Page 8-21 Objective 1: Table 8-2 would suggest that this objective has not been met.

BE Objective 2: The Advisory Board's Revenue Review Committee Draft report suggests that relative to other agencies the MBTA spends a lot in fare collection. It is unclear that costs have been minimized.

BF Objective 3: Chapter 5 focuses on malfunctioning passreaders and turnstiles. The Revenue Reveiw Draft report also suggests there is significant fare evasion. On page 8-28 of the EIR it states "there are indications that fare evasion is high" which appears to contradict an earlier statement that this objective has been met.

BG Page 8-27 (Lines 3 and 4) Where did 22% come from?

(Paragraph 2) Ignores the growth of suburban employment centers since 1978. Regional demographics and ridership patterns have changed substantially since 1978; using 1978 data is inappropriate.

BH Page 8-32 (Table 8-9) As of Spring, 1989, no information was available on tranfers from Heavy Rail to Commuter Rail. Where did these "1988" numbers come from? Some of the other numbers given are similarly suspect.

BI Chapter 8 (Sections on fare schedules-options) The scope states "assess the existing fare schedules and alternatives with the objective of identifying a flexible system which achieves MBTA objectives."

The sections in Chapter 8 as summarized on Page 8-39 fail to address the scope.

BJ The section on fare collection issues has been expanded.

BK D/Riverside Line fares are addressed in the Supplemental Draft along with express bus fares (see Chapter 11, Fare Structure Options and Fare Collection Issues).

BL The MBTA is in the processing of estimating the operating and capital costs, and passenger convenience impacts of a number of alternative fare collection systems. However, this information is not yet available.

BJ Pages 8-39-40 is a cursory look at the issue of fare collection and does not adequately lay out the issues.

BK Never Mentions - D line with $1.75 fare - no dollar bills accepted and no station agents at most stations.

BL Cost: capital and operating and projected impact on fare evasion and convenience for riders are key factors to any discussion of fare collection. They are not addressed.

RESOLUTION ON FY90 FARE RECOVERY RATIO

Whereas the Advisory Board to the Massachusetts Bay Transportation Authority has been on record since 1984 in support of a 33% minimum fare recovery ratio,

Whereas increases in T revenues have not kept pace with increases in T expenses throughout the 1980s, putting an increasing burden each year on the proportion of T costs subsidized by taxpayers,

Whereas it appears the T has not expended the same energy pursuing increased revenues as it has in controlling costs,

Whereas State revenues are now projected to be much lower than originally expected, increasing the already fierce competition among agencies, programs and communities for limited public dollars,

Be it resolved that the Massachusetts Bay Transportation Authority develop and implement by July 1, 1989 a comprehensive plan to balance income and expenses so as to maintain a 33% fare recovery ratio in FY90.

RESPONSE TO COMMENTS
CITY OF BOSTON
RICHARD A. DIMINO
NOVEMBER 27, 1989

A The Advisory Board's policy has been restated based on information supplied by the Advisory Board. Further, the analysis of this issue has been completely rewritten and expanded. It is now included in a separate chapter (Chapter 10, Revenue Recovery Issues) in the Supplemental Draft.

B As stated in the new material in the Supplemental Draft, a 33 percent farebox recovery ratio could be achieved through a large number of fare alternatives, such as raising all fares, just rapid transit fares, etc. Those used are intended only to display the impacts on overall ridership levels. If bus fares were held constant, then rapid transit fares would need to be increased higher to generate the revenue required to meet 33 percent. This would result in higher ridership losses on rapid transit, and lower ridership losses on bus service, but the impact on overall ridership would be similar.

Boston

Raymond L. Flynn, Mayor

27 November 1989

Secretary John DeVillars
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Dear Secretary DeVillars:

I have reviewed the draft MBTA Revenue and Service Environmental Impact Report (EOEA No. 7551). Overall, I was very disappointed with the tone and substance of the report. The MBTA has not fully met the its charge to evaluate service and revenue policies but has used the DEIR to describe and defend current practices instead.

I have a number of specific concerns about the document.

A The MBTA misrepresents the Advisory Board's recommendation for a 33 percent fare recovery ratio. The report states that the MBTA Advisory Board wants a fixed fare recovery ratio and then tries to discredit the recommendation for its inflexibility.

B Since 1985 the MBTA Advisory Board has asked the MBTA to develop cost and revenue goals that allow fares to cover at a minimum 33 percent of operating expenses. This goal is intended to ensure both that the MBTA runs a cost-effective operation and that passengers pay a fair share of the cost of their ride.

The DEIR should evaluate this alternative in more detail. The cursory analysis (conveyed in Tables 8-2 and 8-3) raises more questions than it answers.

How were the fare alternatives selected for analysis? Why only Green Line and subway fares? What are the implications of keeping bus fares constant through 1993?

Richard A. Dimino, Commissioner, Transportation Department
City of Boston/City Hall Square/Boston, MA 02201

C The rationale for using 1981-82 elasticities versus those observed for the 1989 fare increase has been included in the Supplemental Draft (Chapter 10, Revenue Recovery Issues). Also, budget figures have now been re-presented on a calendar basis through 1983 and on a fiscal year basis thereafter.

D The analysis of a 33 percent revenue recovery ratio now includes updated figures that includes the impact of the 1989 arbitration award.

E The analysis now presents the cost of maintaining stable fares in terms of subsidy requirements.

F The MBTA fare structure objectives, as with others described in Chapter 3 (Policy Framework for the MBTA), must be considered in conjunction with other relevant factors. Although there are some inequities in the fare structure, a large majority of MBTA riders do pay the same fare for the same trip, and the problem of fare evasion on zoned bus trips is one for which no transit system has found an ideal solution. For example, some systems check receipts when buses cross zone boundaries, but this causes delays, especially on crowded trips.

G Problems with free transfers for cash fares are the potential for fare evasion and the cost of administering and controlling transfers. A prepaid monthly pass provides a mechanism to provide for transfers while avoiding these problems.

H A fairly detailed analysis of the implications of a number of fare structures is included in the report. However, over the long-term, a decision on which would be best would dependent upon a number of policy decisions. These would include whether bus fare should remain low to provide a low cost option to low income riders or whether fares should instead be set to maximize revenue or ridership. Any decision would also be dependent upon the cost of alternative fare collection systems, which the MBTA is currently in the process of investigating. Until these determinations are made and the costs of other systems has been determined, the recommendation of a specific fare structure is believed to be premature.

C Is it appropriate to use elasticities derived from the 1981-82 fare changes, or should further analysis reflect passenger behavior observed in 1989? This report indicates that "the public, generally pleased with improvements made to the MBTA in the past decade, would be willing to support the increase" in 1989. Why not assume this for the next five years? And why does this table use calendar years for its analysis, when MBTA budget calculations generally reflect fiscal years?

D The comparison should include the impacts of the 1989 arbitration award. This award has already had such far-reaching impacts on the MBTA's operating budget that failure to include this in any analysis renders the conclusions suspect.

E The DEIR does not address the consequences of not raising fares. For example, there was no discussion of implications for the net cost of service and the state subsidy required under different fare alternatives. And no comparisons are made with other transit authorities, many of which have fare recovery ratios higher than the MBTA. Surely this must be factored into any political and economic analysis of fare levels.

Finally, the alternatives presented on these tables appear to assume the current fare structure. There is clearly an interactive relationship between fare levels and fare structures that must be addressed at some point.

F <u>The discussion of fare structure options is incomplete</u>. The report indicates that the existing MBTA fare structure meets the Authority's objectives. Yet examples cited in the text suggest that at least two goals have not been met. The existing fare structure does not appear to minimize fare evasion and it is not always equitable.

The report indicates several times that fare evasion can be a problem; specifics include payment of correct zone fares on local buses, and difficulties in counting exact change on express bus routes. What is the extent of this level of fare evasion? How does it compare to that associated with other fare structures?

G The report should give more attention to the issue of horizontal equity in the fare system. Specifically, passholders may now transfer free of charge between modes, whereas cash customers cannot. What are the implications of this approach?

H Finally, the discussion of alternative fare structures was disappointing. The report described a number of alternative fare structures only to determine that a detailed analysis is beyond its scope.

I This section has been rewritten and expanded. Parking fees are included, as well as assessments of the feasibility of various sources, whether they are used elsewhere, potential revenue, and other impacts.

J The revenue-based ridership estimation procedure used was designed specifically to avoid and/or take into account the problems emanating from broken pass readers and turnstile registers.

For rapid transit, the surface Green Line, and bus service, sampling did take place throughout the full span of service, including early mornings, nights and weekends. It was *not* confined to weekday service between 7:00 am to 9:00 pm.

K As stated in the comment, bus ridership figures have been assembled from a number of sources. They represent the best currently available data. As has been clarified in the Supplemental Draft, most counts were conducted since 1986, but many have not been updated. More recent pointcheck data is available, but is not useful for portraying total route ridership.

L This section has been significantly rewritten and greatly expanded to provide additional information, and is now contained in Chapter 4 (Description of Existing MBTA Service). This includes additional information on loading standards and on-time performance.

I

The discussion of alternative revenue sources is inadequate. The report does not discuss the potential for increasing non-fare revenues in sufficient detail. A brief summary of existing non-fare revenue sources is optimistic about the potential for enhancing income from advertising, fiber optics, and real estate. Yet the discussion includes only minimal information about the current and future revenue potential of these sources; a plan showing growth in these areas would be welcome.

The omission of parking fees from this list of non-fare revenue sources is puzzling. The MBTA has just introduced a new program of fees at park-and-ride lots throughout its system. Information about the projected revenue from this source would be appropriate.

The discussion of future funding sources is nearly as vague. The report summarizes funding options in other cities but fails to discuss the potential for pursuing such options in Massachusetts. There is only cursory analysis of the revenue potential or political acceptance of any of these alternatives.

J

The methodology for estimating ridership impacts perpetuates the problems of earlier MBTA ridership studies. The report indicates that revenue-based passenger estimates "provide a more cost effective method to estimate total ridership than actually counting all riders." Yet the MBTA readily acknowledges the problems with this methodology -- broken pass readers, inconsistent timing of turnstile readings, fare evasion. In addition, the technique depends on a series of samples and estimates and corrections and adjustments. Moreover, the MBTA does not appear to survey ridership during weekends, late night, and and early morning; the focus is almost exclusively weekdays between 7:00 a.m. and 9:00 p.m. None of this instills much confidence in the accuracy of MBTA passenger counts.

K

I also question the value of Table 5-5, which shows weekday bus ridership. The counts are not dated, and discussions with MBTA staff indicate that they come from a variety of sources, including bus corridor studies, point checks, and other ridership surveys over several years.

L

The discussion of MBTA service standards needs further clarification. The report summarizes the MBTA's service, design, and operating standards without providing comparable information on the Authority's performance in these areas. More information is needed to fully understand the MBTA's service policies and performance.

For example, the report indicates (in Table 3-1) that linehaul buses and trackless trolleys should carry no standees. Does the MBTA meet this goal? Elsewhere, the report identifies policy headways for rapid-transit service but does not summarize on-time performance.

M The MBTA no longer distinguishes between regular route, linehaul, feeder, crosstown, and community-based service with respect to performance guidelines. Therefore, these references have been eliminated.

N The description of existing and proposed MBTA service has been expanded (see Chapters 4 (Description of Existing MBTA Service) and 5 (MBTA Service and Ridership: Trends and Projections)). The Supplemental Draft includes information on rapid transit service levels by line.

O The statement that the MBTA plans to retain current bus service on the Watertown Trolley line is consistent with current MBTA plans.

P The implications of the State's current fiscal problems is now addressed in a number sections in the Supplemental Draft, including in Chapter 2 (Introduction), Chapter 9 (MBTA Funding), and Chapter 10 (Revenue Recovery Issues).

M Throughout the section, the MBTA refers to linehaul, feeder, regular-route, crosstown, and community-based services. How are these defined?

N The report indicates that running six-car trains on the Red and Orange Lines "increases potential peak-hour capacity by 50 percent." In the same section, information about peak-hour vehicle levels for the Orange, Red, and Blue Lines is combined. The EIR should provide more information about service levels, including actual and projected capacity, ridership, and load factors for each rapid-transit line (Red, Blue, Orange, and Green Line).

O In discussing the Watertown trolley analysis, the DEIR says that the MBTA "plans to retain the current bus service." This statement is not consistent with recent public statements on the issue.

Summaries of Washington Street replacement service and South Boston Piers transit alternatives should be better coordinated. The discussion about Washington Street identifies a proposal for an electric bus system to be tied into the South Boston Piers system. The discussion of South Boston Piers options does not refer to this plan.

P Finally, the report understates the impacts of the statewide fiscal crisis on the MBTA. Although the MBTA does acknowledge the uncertainty of continued state and federal funding, no plans are presented for seeking more stable funding sources. In fact, at one point, the report states that increased state subsidies might be preferable to higher fares. This casual discussion of a very serious problem is extremely troubling.

This EIR offered the opportunity for the MBTA to look at a number of serious long-term issues. But this potential has not been realized. The report is descriptive rather than analytical. And most of the information included in the DEIR has already appeared in other documents; the report contains very little thoughtful analysis.

Sincerely,

Richard A. Dimino
Commissioner

RAD/SB
6741T

Appendix A-2 Comments on the Environmental Notification Form

RESPONSE TO COMMENTS
MONTACHUSETTS REGIONAL PLANNING COMMISSION
NATHANIEL T. DEXTER
(MARCH 10, 1989)

MONTACHUSETT REGIONAL PLANNING COMMISSION
ENF SUMMARY RECOMMENDATIONS
(ATTACH TO ENF)

Name of Clearinghouse: MRPC

Applicant: MASSACHUSETTS BAY TRANSPORTATION AUTHORITY/1989 FARE INCREASE/ ENF

Reviewer: MRPC

Date of Application: 2/15/89

Telephone:(508) 345-7376

CFDA#:

Date Comments Forwarded by Clearinghouse to Applicant:3/10/89

( ) SUPPORT

COMMENTS:

(X) SUPPORT ONLY WITH CONDITIONS: (Indicate major reservations about) the project and specific substantive changes or modifications desired.

CONDITIONS: AT THE REGULAR MONTHLY MEETING OF THE MONTACHUSETT REGIONAL PLANNING COMMISSION HELD ON FEBRUARY 28, 1989 MEMBERS VOTED TO FIND THIS PROPOSAL IN CONFORMITY WITH REGIONAL GOAL, POLICIES AND OBJECTIVES. HOWEVER, MBTA'S DECISION TO INCREASE BY MORE THAN FIFTY CENTS ACROSS THE BOARD AND NOT INDICATE THOSE INTENTIONS AT A PUBLIC HEARING DOES NOT MEET OUR GOALS, POLICIES AND OBJECTIVES.

( ) DO NOT SUPPORT (Summarize the major reasons for recommended disapproval including documentation or reference to plans, statutes, regulations etc., which substantiates disapproval.)

COMMENTS:

( ) NO COMMENT (Although the clearinghouse may not wish to take a formal position, technical comments of the staff may be attached with comments from closer reviews.)

( ) OTHER

cc: MEPA

Nathaniel T. Dexter, Chairman

RESPONSES TO COMMENTS
PRIVATE CITIZEN
CHARLES BAHNE, JR.
(MARCH 30, 1989)

A The MBTA reviewed many options carefully before selecting the new pass system. Of prime consideration in establishing a new system was simplicity of use and equity among riders.

B Headway variance is measured against the printed schedule and is expressed as on-time departure performance. All of the corridor bus studies provide this information. Corridor Bus Studies are available to the public from the MBTA, Operations Directorate or the from the Transportation Building Library.

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224 concord avenue
cambridge, massachusetts
02138

617/354-0539

EOEA # 7551
MBTA 1989 Fare Increase

Suggestions for Inclusion in Revenue and Service EIR

March 30, 1989

Monthly Pass Program — Letter Report

I believe strongly that any major changes in the MBTA Monthly Pass Program should be subject to a full 30-day public comment and review period. However, MBTA officials have indicated that a final decision on the pass program must be made by May 1, 1989, in order to meet printer's deadlines for implementation on July 1, 1989. As of this writing, there are only 32 days remaining until May 1, and the MBTA has not, to my knowledge, submitted its revised pass program proposal.

A Therefore, I believe that EOEA should require the MBTA to continue the existing pass program structure, with no changes at this time, except for price increases to allow for higher cash fares, and except for adjustments in pass validity on commuter rail and express buses to reflect the larger fare increases for these services. By this I mean that all current passholders, except for commuter rail and express bus users, should continue to purchase the same letter-denominated pass as ~~presently~~ before.

The commuter rail monthly pass program should be reintegrated with the letter-designated passes, as was the case until February 1989.

If the MBTA still wishes to propose changes in its monthly pass program, these changes should be included for analysis and comment in the Revenue and Service EIR, and they can be implemented after the final EIR is submitted and accepted.

The following suggestions are organized to follow the draft outline submitted by the MBTA on March 27, 1989:

I. Service — A. Policies and Procedures — 3. Performance Standards

B Measurement of Service Quality. Numerous observers have commented that the MBTA's existing measures of service performance do not adequately reflect service quality as it is perceived by the transit user. One suggested measure of service quality is the headway variance. The EIR should analyze this and other possible service quality measurements, and the MBTA should be required to implement measuring techniques which more accurately reflect service quality. These measurements should be made available to the public on a timely and periodic basis.

C Electronic fare boxes generally offer advantages over the existing collection methods but are not currently being considered for implementation due to the high capital cost of their installation. According to preliminary investigation of such system, the MBTA has estimated that installation of electronic fare boxes would cost approximately $15 - 25 million.

D The before "existing" cash schedule is covered in Chapter 6 especially on pages 6-2 and 6-3.

E This issue is detailed in Chapter 11 in the section on Fare Structure Options. See pages 11-4 through 11-8 especially.

F The pass program, as analyzed and implemented is described in Chapter 6 on pages 6-4 through 6-9.

G Recently, the MBTA has implemented a tourist-type of MBTA pass to allow for three-day pass use. Marketing for this pass has been extensive in publications and locales appealing to the tourist market. While not a portion of the fare increase, the new pass has nevertheless offered new flexibility for MBTA customers.

C

III. Revenue — C. Fare Schedule — 2. Constraints of Fare Collection Equipment — e. New Technology

Electronic Fare Boxes. Electronic fare boxes, which have been used by transit operators in many other cities, offer greater accountability over revenue as well as improved statistical data on ridership. The EIR should document the potential costs, advantages, and disadvantages involved in using these fare boxes on the MBTA.

D

III. Revenue — C. Fare Schedule — 3. Existing Fare Schedule

This section should separately analyze the cash fare schedule and the monthly pass program (see new section 3.5 below).

E

III. Revenue — C. Fare Schedule — 3. Existing (Cash) Fare Schedule — b. Alternatives Considered

Riverside Line Fares. Under the fare increase proposal just adopted by the MBTA Board of Directors, the Riverside Line remains the only fare anomaly on the MBTA rapid transit system. In other words, the Riverside Line is the only place on the MBTA's four rapid transit lines where the fare is not a multiple of the basic rapid transit fare (token price). Passengers boarding between Fenway and Reservoir will pay 90 cents, or 1 token plus 15 cents; passengers boarding between Chestnut Hill and Riverside will pay $1.75, or 2 tokens plus 25 cents.

As I have commented earlier, this fare anomaly is confusing to riders, and it is a disincentive to transit use, since the extra fare is imposed only on cash fare payers (not on monthly pass users) and only at stations where exact fare, in coins only, is required.

The EIR should include a justification for this fare anomaly, an analysis of the added revenue which it generates, an analysis of the cost of collecting this revenue, and an analysis of its impact on ridership. Also included should be a calculation of the estimated increase in the basic token price which would be needed to make up the revenue loss if this fare anomaly were eliminated.

F

III. Revenue — C. Fare Schedule

Add new section 3.5 Pass Program as follows:

a. Monthly Pass Program

As indicated above, the EIR should analyze proposed changes or alternatives to the existing monthly pass program, including the proposal offered by the MBTA in February 1989, and any other proposed changes which the MBTA wishes to pursue at this time.

G

b. Other Passes (Weekly, etc.)

This section should analyze the implementation costs, revenue impacts, and ridership impacts of other kinds of passes which the MBTA could offer, such as weekly passes, three-day passes, etc.

H Chapter 11 focuses exclusively on fare structure options and includes a lengthy discussion of free/discounted transfers (pages 11-10 through 11-15).

I The practice of accepting dollars bills has been examined by the MBTA, and there are no plans to accept paper currency, except at token booths. While it is acknowledged that accepting dollar bills would make fare payment more convenient for many riders, it would also significantly increase the cost of revenue collection. In addition to the capital costs of the new equipment, there are also lasting personnel and overhead costs (at SEPTA in Philadelphia, which is a similar size to the MBTA, 15 additional employees had to be hired to handle dollar bills when they switched to a system which accepts paper money). Considering the additional cost and current fiscal constraints, acceptance of dollar bills is not being pursued. However, the installation of change and/or ticket machines for surface Green Line stations, and possibly high volume express bus stops, is being investigated.

J The MBTA is currently exploring the practicality of installing token machines and/or change machines on selected portions of the surface Green Line and possibly in Newton Corner.

K The Marketing and Ridership Department is continuing to work on expanding the number of pass sales locations.

H

III. Revenue — C. Fare Schedule — 4. Future Revenue Collection System

Major Fare Structure Revisions Suggested by Others. Other observers have suggested a number of major changes in the MBTA fare system, such as (1) allowing free transfers between subway and bus or (2) converting to a distance-proportional rapid transit system similar to those used in Washington, D.C., and on BART in San Francisco. The MBTA has generally replied that these systems would be too expensive to implement.

The EIR should document the costs and other difficulties, along with the advantages, of these and other similar proposals.

I

III. Revenue — C. Fare Schedule

Add new section 5. Mitigating Measures as follows:

a. Acceptance of Dollar Bills

The MBTA does not currently accept dollar bills on its streetcars and buses, requiring instead exact change in coins and/or tokens. With cash fares on some lines approaching $2.00, this policy prohibits many would-be users from considering transit as an option.

At the scoping session on March 16, MBTA officials indicated that acceptance of dollar bills on streetcars and buses is not feasible given currently available fare collection equipment. The EIR should document the costs or other reasons why dollar bill acceptance is not feasible, and the MBTA should propose alternative means of making the transit system accessible to potential users who do not normally carry $2.00 in change.

J

b. Additional Token Sales Locations

As one alternative to acceptance of dollar bills, the EIR should evaluate mechanisms to allow sales of tokens at sites other than rapid transit stations. The need for token sales locations is especially crucial along the four Green Line branches, in particular the Riverside Line, and at express bus stops such as Newton Corner, Lynn, and Salem.

Possible token sales methods include staffed collector's booths, vending machines, dollar bill change machines, or contracting with local merchants to sell tokens (much as some merchants now sell monthly passes or commuter rail tickets).

At stations where the MBTA rents space to concessions, parking lot operators, or other tenants, these lessees should be required, as part of their contract with the MBTA, to sell tokens and passes and to make change for MBTA passengers.

As regards the EOTC's proposal to sell ten-packs of tokens for a discount price, the MBTA should also consider selling these ten-packs through participating merchants, either instead of or in addition to its own facilities.

K

c. Additional Pass Sales Locations

In many other cities, monthly passes and/or multiple-ride transit tickets are sold through supermarkets, major banks, and similar outlets. (The equivalent situation in Boston would be for MBTA monthly passes to be sold at all Star Markets and at all Bay Bank branches.) In Boston, by contrast, monthly passes are available at a handful of banks, post offices, merchants, and MBTA stations.

L Improved communications is one of the top priorities of the General Manager of the MBTA.

M Chapter 11 provides a discussion of these issues including the existing fare structure and future fare structure options.

N The rapidly changing financial climate of the last year within the Massachusetts political and economic system has caused decision-making to be greatly accelerated.

The EIR should document the costs, advantages, and disadvantages involved in increasing the number of pass sales outlets. The EIR should also analyze the locations of the existing pass sales outlets, as compared to MBTA ridership patterns, to see if there are any portions of the MBTA service area where new pass sales outlets should be established.

d. Improved Public Information

The EIR should analyze the effects of improved public information about transit services and fares as a mitigating measure to fare increases. This is especially true for the monthly pass program, which has been a source of confusion in the past. The Authority should commit to a series of measures to improve both the quality and availability of information regarding monthly passes.

The "Which Pass Should You Buy?" format used in describing the MBTA's earlier pass program proposal is a good start; however this format should be a supplement to, and not a replacement for, a complete description of the pass program. Also, the charts used in this format should list all passes valid on a given service, not just the least expensive pass. (These could be identified as "Suggested Pass: C; Other Valid Passes: D, E, F.")

L

Also needed are complete and accurate information regarding both pass validity and cash fare zones (where applicable) on all of the MBTA's individual route timetables, including a breakdown of pass validity by fare zones on timetables for zoned routes.

The MBTA may wish to evaluate the feasibility of a separate list which would indicate pass validity by bus route number (and by fare zone for zoned routes), and which could be distributed through pass sales outlets as well as to bus drivers and other MBTA employees.

III. Revenue

Add new section D. Future Fare Increases as follows:

a. Fare Policy

In the light of the analyses done under "Fare Recovery" and "Fare Schedule," the EIR should suggest outlines for future fare increases. In particular, this section should recommend relationships between fares on different MBTA services. For example: Should express bus fares be on the same mileage basis as commuter rail fares? Should Riverside Line fares be the same as or higher than other rapid transit fares? Should the local bus fare remain at 67% of the basic subway fare? Are existing rapid transit zone fare lines drawn equitably? Should the commuter rail fare structure and pass program be integrated with fares and passes for other MBTA services?

M

b. Procedures for Future Fare Increases

The MBTA's most recent fare increase process generated bitterness and misunderstanding because of the manner in which it was conducted. Instead of announcing the proposed fare increases all at once, the information was leaked to the public through a series of fine print legal notices in the newspapers. Some information, such as the proposed pass program changes, was never fully made public. Contradictory statements were issued by the MBTA; and confusion and misinformation were prevalent during the process.

N

For future fare increases, the MBTA should propose and commit to binding procedures with respect to public information and comment periods.

Except in case of emergency, the MBTA should be limited to just one fare increase per year. All increases being sought -- commuter rail, rapid transit, local bus, express bus, monthly pass program, etc. — should be announced simultaneously, with public hearings held separately for each mode if necessary.

These procedures should also specify a minimum amount of public information which the MBTA must release before the public comment period begins. Any failure to release adequate public information, or any revision of the proposal, would cause the clock on the public comment period to be reset to the beginning.

If the MBTA sets fare increase policies and procedures in advance and then adheres to them, then all parties will know what to expect, and the fare increase process will go much more smoothly in the future than it has this year.

# # # # #

"No, that's no good, we've used that one before. How about this? 'We deeply regret that it has become necessary to increase the fares in order to pay Christian Dior's retainer for re-styling the trainmen's uniforms'."

46

RESPONSES TO COMMENTS
PRIVATE CITIZEN
CHARLES BAHNE, JR.
(MARCH 6, 1989)

A The pass system was simplified and as a mitigation measure to the fare increase, the transit and bus pass price increase was delayed for several months (the fare increase for rapid transit, D/Riverside Green Line and express bus was implemented on May 1st and the related pass price increases were not implemented until July 1st). This delay was created to encourage pass use. The break-even point, that is the number of monthly cash trips required to equal the cost of a monthly pass, either stayed the same or was reduced depending on the type of pass. Details of these changes are included in Chapter 6.

charles bahne, jr.
224 concord avenue
cambridge, massachusetts
02138

617/354-0539

March 6, 1989

Mr. Stephen Davis
MEPA Unit
Executive Office of Environmental Affairs
100 Cambridge Street, 20th floor
Boston, Massachusetts 02204

Re: MEPA # 7551, MBTA fare increase

Dear Mr. Davis:

My understanding is that the EOEA and the MBTA have reached a tentative agreement which would allow the MBTA to implement their proposed fare increase immediately and to submit a retroactive EIR at a later date.

This letter is to request you not to allow the implementation of the proposed fare increase at this time, on grounds that the MBTA has abused the MEPA process as well as its own public hearing process. I am referring specifically to the proposed major changes in the MBTA's existing monthly pass program, and to the fact that these proposed changes were not mentioned in any of the Authority's publicity about its hearings on February 27-28 and March 1.

By not announcing these proposed changes until the day of the public hearing, the MBTA has ensured that they will receive no comments on them. I view this as a serious breach of good faith on the part of the MBTA.

Furthermore, I believe that the proposed changes in the monthly pass program will have an adverse effect on transit ridership above and beyond that caused by the monetary fare increase. The MBTA has taken a program which has already been justifiably criticized because it is too complicated and difficult to use, and it has made it even more complicated.

A

The proposed new pass program would have three additional kinds of passes, compared to the existing program. Where the existing program is linear, in the sense that as one goes to a higher letter, the price and validity of the pass also increase, the new program would no longer have this feature. If the MBTA's proposal is implemented, I fear that the result will be massive confusion among both transit riders and transit employers. The net result will be that people will be less willing to purchase MBTA passes and thus less likely to use transit.

I would submit that, as a mitigating measure to any fare increase, the

B The old C pass has been renamed the COMBO pass and the break-even point has been reduced from 18 to 16 roundtrips per month.

MBTA should be required to simplify its fare structure and pass program, to improve the quality and availability of information about the pass program, and to increase the number of pass sales locations. These mitigating measures could all be effected in a manner that is either revenue-neutral or has a minimal impact on revenue.

B

I would also like to point out that, as a mitigating measure at the time of its last fare increase (1981) and the subsequent fare decrease required by MEPA (1982), the MBTA slightly discounted the price of the monthly pass which is valid for the basic rapid transit fare plus the basic local bus fare. This is currently the "C" pass, which has a face value of $1.00 even though the rapid transit fare (60c) and the local bus fare (50c) add up to $1.10. At a monthly price of $36.00, the pass is priced at 16.4 round trips. Before the 1982 fare reduction, this was the "D" pass which was priced at 16 round trips.

However, under the MBTA's proposal, this mitigating measure would be removed from the pass program. The proposed "C" pass, which would be valid for basic rapid transit plus basic local bus, would be priced at $43.00 or 17.2 round trips.

Since the EOEA required this mitigating measure in 1981 and again in 1982, and since no evidence has been submitted to indicate that mitigation is no longer necessary, I submit that EOEA should require this mitigating measure to continue in effect.

I am enclosing a copy of comments about the proposed pass program which I have submitted to the MBTA. I appreciate your consideration on this matter and I look forward to hearing from you regarding the date of the Scoping Session on this proposal.

Sincerely yours,

Charles Baker, Jr.

Encl.

RESPONSES TO COMMENTS
PRIVATE CITIZEN
CHARLES BAHNE, JR.
(MARCH 1, 1989)

A Described in Chapter 6, the new MBTA pass system, as implemented, has been simplified and made generally more flexible. In addition, it is easier to use and there is now a larger discount for pass purchase.

charles bahne, jr.
224 concord avenue
cambridge, massachusetts
02138

617/354-0539

March 1, 1989

Massachusetts Bay Transportation Authority
Attn.: Fare Increase Proposal
10 Park Plaza
Boston, Massachusetts 02116

-and-

MEPA Unit
Executive Office of Environmental Affairs
100 Cambridge Street, 20th floor
Boston, Massachusetts 02204

Re: MEPA # 7551, MBTA fare increase

Dear friends:

Yesterday I testified at the combined public hearing and MEPA scoping session on the MBTA's fare increase proposal. At that time I did not comment on the MBTA's proposed restructuring of its monthly pass program, because that portion of the proposal was not circulated in advance of the hearing. This letter, then, is an amplification of my earlier comments, based on additional information provided at the hearing.

The proposed monthly pass program changes are wholly unacceptable. The MBTA has taken a system which has already been criticized as being too complicated, and it has made it even more complex. If this proposal is implemented, the result will be mass confusion both among transit users and among MBTA employees who will have to implement the system, and ultimately a loss in ridership because people will have difficulty understanding the pass system and will be unwilling to use it.

A

Instead of the six kinds of monthly passes now in use, the Authority is proposing nine varieties of passes. If transit users now have difficulty purchasing the right pass -- and there is ample evidence that this is the case -- then what will happen with three more kinds of passes? And if transit employees now have difficulty knowing which pass is valid on a given route -- and this has been documented -- then what will happen with this new proposal?

Under the present pass system, each pass is valid for all services that lower passes are valid for; the only exceptions are the "A" and "B" passes. Thus one can say that a certain route requires, for example, a "D or higher" pass. Under the new proposal, this is no longer the case. The new "E" pass, at $40.00, would be less expensive than the "D" pass, at $45.00. Presumably, then, the "E" pass would not be valid for some services which the lower-rated "D" pass would be good for.

I must say "presumably" in the above paragraph because the Authority has still not provided a full description of the new pass system. Handouts at the public hearing included a three page chart titled "Which T Pass Should You Buy?"; but while this chart told riders that under certain circumstances they must buy a "G" or an "H" pass, it did not list which services those passes are good on. For example, can a rider, who sometimes uses one bus and sometimes another bus, purchase just the "H" pass; or must he/she buy both the "G" and "H" passes?

Engineers and planners often use the acronym "KISS" -- "Keep It Simple, Stupid." The simplest program is most likely to work, and the simplest program will also be the most easily understood. If the MBTA's new pass program cannot be fully described in three pages of typed text, than what is the probability that a bus driver out on his or her route will be able to correctly tell his or her patrons which pass they must use?

Potential transit riders may be deterred not only by the cost (fare) of the transit trip, but also by the complexity of the fare structure. If the fare system and the monthly pass system are easy to use and to understand, that will be an incentive to transit use. If the fare structure and pass system are awkward and incomprehensible, that will discourage transit use, particularly by marginal riders who have the choice of either not making the trip at all or of using another mode such as driving or walking.

[Other examples of "user-unfriendliness" which can be found in the Authority's current fare increase proposal, and which I have mentioned in my earlier comments, are the 15-cent and 30-cent extra charges on the Riverside Line, and the Authority's refusal to accept dollar bills.]

With three additional kinds of passes, the proposed new pass program will also be more expensive for the T to implement, resulting in erosion of its net revenue.

Not counting commuter rail zones, the Authority should retain its present maximum of six basic passes. Furthermore, for rapid transit and local bus users, the pass letter code should remain the same, so that the person who now buys a "C" pass will continue to buy a "C" pass. As an appendix to this letter, I have included a proposed pass system structure which is based on the Authority's current cash fare increase proposal, and which is much simpler than that proposed by the T.

Since there is evidence that the existing pass system is too difficult for its users and operators to understand, then, instead of making it even more complicated, I would suggest that the Authority look for ways to make the system simpler or to improve the available information.

Present public bus timetable cards indicate, in some cases, which pass is valid; but this information should be printed on all public timetables. In particular, for zoned buses (both local and express), the present timetables often tell which pass is good for the entire route; they should also state which pass is good for each different zone (as well as the cash fare by zones). Charts indicating valid passes for each bus route, listed by number (and by zone where applicable), should be available at all MBTA pass sales locations and to all MBTA bus operators.

The proposed pass system changes are also unacceptable because pass prices would be higher for local buses, in spite of the Authority's claims that local bus fares will not increase.

For example, passes for zone one rapid transit trips will increase $5.00, from $22.00 to $27.00. However, passes for the same rapid transit trip plus a .50 local bus will go up by $7.00, from $36.00 to $43.00. Similarly, passes for zone one rapid transit plus a .75 local bus will increase $8.00, from $40.00 to $48.00. This additional $2.00 or $3.00 can only be described as a bus fare increase, and in spite of the Authority's announced intentions, it would adversely affect riders from inner city neighborhoods who can least afford it.

Finally, I must say that the proposal to make such massive changes in its pass program, without any public notice whatsoever, appears to be an act of extreme bad faith on the Authority's part.

Nowhere in the publicity surrounding the fare increase proposal has there been any suggestion that the pass program structure would change. Neither the legal notice for the fare increase, nor the brochures and posters distributed by the T, have even mentioned that pass program changes were under consideration. There has been no newspaper publicity concerning this aspect of the fare increase proposal; it was never even announced that pass prices would be increased, although this was a logical assumption.

Information about proposed pass program changes was handed to me when I walked into the public hearing; but this information was not distributed before the hearing. And as pointed out above, even at this date the T has not chosen to circulate a full description of the new pass program.

Because, even during and after the public hearing process, the MBTA continues to be uncooperative in releasing public information about its fare increase proposal, and because the proposed pass program changes are not acceptable, I reiterate my request that the T withdraw its current fare increase proposal until such time as the Authority can get its act together, prepare a comprehensive (and comprehensible) fare increase proposal, and distribute that proposal for informed public comment.

I am further requesting that the Office of Environmental Affairs prohibit any implementation of any portion of the MBTA's fare increase proposal until the Authority has accurately and adequately defined its entire proposal and allowed a reasonable time for informed public comment on that proposal.

Thank you for your consideration.

Sincerely yours,

Proposed Pass System Structure Based on MBTA Fare Increase Proposal
Submitted by Charles Bahne, Jr.
March 1, 1989

Pass		Price	Valid on:
A	.50	$18.00	(no change from present)
B	.75	$27.00	.75 rapid transit/Green Line stations commuter rail zones 1A & 1B
C	1.25	$40.00	Quincy Center station & Riverside line .75 rapid transit/Green Line stations + .50 local bus
D	1.40/ 1.50	$45.00	All rapid transit including Braintree .75 rapid transit/Green Line stations + .75 local bus 1.40 express bus
E	1.65	$52.00	All rapid transit .75 rapid transit/Green Line stations + 1.00 local bus Quincy Ctr./Riverside + .50 local bus Newton Corner/Watertown/Lynn* + .50 local bus 1.65 express bus commuter rail zone 1
F	1.90	$61.00	All rapid transit .75 rapid transit/Green Line stations + 1.00 local bus Quincy Ctr./Riverside + .75 local bus Newton Corner/Watertown/Lynn* + .75 local bus Braintree + .50 local bus 1.90 express bus commuter rail zone 2

[If the Authority believes that an additional pass zone is necessary at the outer end of the system, it should be as follows:]

G	2.25	$70.00	All rapid transit .75 rapid transit/Green Line stations + 1.25 local bus Quincy Ctr./Riverside + 1.00 local bus Newton Corner/Watertown/Lynn* + 1.00 local bus Braintree + .75 local bus commuter rail zone 3

* -- Newton Corner, Watertown, and Lexington are served by .50 local bus from .75 (proposed fare) rapid transit stations. Pass acceptance on routes from these termini should thus be based on a nominal fare of 1.25 (proposed fare) to Newton Corner or Watertown, plus the cost of the local bus beyond that point.

Evidence which I shall submit at the hearings on the proposed north shore bus service cuts indicates that the cash fare from Lynn (Central Square) to Wonderland should be only .50. Thus the nominal $1.25 fare should apply to Lynn as well.

The above table is intended as a suggestion for structuring the pass system based on the Authority's current fare increase proposal. This table is not intended as an endorsement of the fare increase proposal.

RESPONSE TO COMMENTS
CONSERVATION LAW FOUNDATION
ANDREW HAMILTON
(MARCH 28, 1989)

A Such a Committee was established and has been fully involved in the development and review of this document.

CLF

Conservation Law Foundation of New England, Inc.

3 Jov Street
Boston, Massachusetts
02108-1497
(617) 742-2540

March 28, 1989

Mr. Steve Davis
MEPA Unit
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02116

Dear ~~Mr. Davis~~, Steve

A I have another idea to add concerning the preparation of the EIR on the fare policy. In discussing the scope of the study today with Don Kidston, MBTA, we realized some sort of on-going feedback mechanism would be helpful. Even though neither of us wants to create more work for our organization, it seems logical to create a Citizens Advisory Committee, probably to be made up of those persons attending the March 16 meeting, if they are willing. I sat on the CAC for the preparation of the Roadsalt GEIR and can honestly say it was quite successful in improving the eventual product.

I would be willing to serve on such a committee, and according to Mr. Kidston, it would be helpful to the MBTA. You might want to test the waters to see if others would be willing to serve before instituting such a body, but I believe most of those interested in the process would be willing to do so. I have already spoken with Steven Chait, who also indicated a willingness to serve on such a committee.

Sincerely,

Andrew Hamilton
Staff Scientist

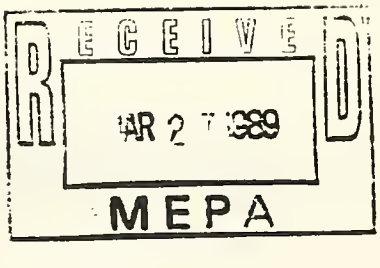
cc. Don Kidston, MBTA

RESPONSE TO COMMENTS
CITY OF BOSTON
RICHARD A. DIMINO
(MARCH 27, 1989)

A The MBTA Revenue and Service SDEIR on the 1989 Fare Increase evaluates the potential revenue from a variety of non-fare sources. This information is presented in matrix form in Table 9-1 on pages 9-11 and 9-12. In addition, the measures are discussed on pages 9-10 through 9-27.

Boston

Raymond L. Flynn, Mayor



27 March 1989

Secretary John DeVillars
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Dear Secretary DeVillars:

The MBTA Board of Directors recently voted to increase fares on commuter rail and rapid-transit services; express bus fares are still under review. As you know, the City of Boston has consistently opposed any increase in fares on MBTA bus and rapid-transit service. Increasing these fares will adversely affect Boston's many low-income transit-dependent residents. Residents in nearly two out of five households across the City do not own automobiles, and those in one household out of three rely on transit for their work trip.

For this reason, we have called for an environmental impact report to examine the effects of this fare increase on overall ridership. I am pleased to see that you have responded to this concern by requiring the MBTA to prepare a revenue and service environmental impact report.

Within this document, the MBTA can work toward developing policies covering fares, service delivery, and service planning. I am pleased to offer the following comments on the proposed scope for this report.

A

Revenue policy

The MBTA should evaluate the potential revenue available from various non-fare sources, including advertising, concessions, leases, and joint development.

The MBTA should incorporate this information into an overall policy for maximizing non-fare revenues. The policy should address the tradeoffs between the sometimes conflicting goals of public policy and revenue generation (e.g. should the MBTA accept cigarette advertising?).

Richard A. Dimino, Commissioner, Transportation Department
City of Boston/City Hall Square/Boston, MA 02201

B The implications of meeting various fare recovery scenarios, including the 33 percent fare recovery ratio are discussed in Chapter 10 (See pages 10-1 through 10-25). Equity, revenue potential and feasibility are all considered.

C The report looks at alternative fare structures and collection system in Chapter 11 (See pages 11-1 through 11-21).

D The implications of transfer policies are addressed in Chapter 11 on pages 11-1 and 11-2 and again on pages 11-10 through 11-15.

E The report addresses prepaid passes in general. Since the comment was made, the MBTA has initiated tourist passes.

F The service policies outlined are discussed in Chapter 4, pages 4-26 through 4-31.

Fare policy

B The MBTA should evaluate the implications of meeting various goals for revenue recovery, including a 33 percent fare recovery ratio. Issues addressed should include:

- Equity
- Revenue potential
- Feasibility of implementation.

C The report should look at alternative fare structures (e.g. distance-based, peak-period) as well as alternative fare collection systems.

D The MBTA should examine the implications of various transfer policies in this report. Discussion should cover equity, ease of implementation, implications for revenue, and implications for prepaid pass system.

E The report should evaluate the prepaid pass system and determine whether additional variations are feasible (e.g. "tourist" passes, weekly passes, etc.).

Service policy

The EIR can provide an opportunity for the MBTA to evaluate its service policies and revise them if appropriate.

F The MBTA should ensure that its service policy covers all modes of operation. The policy should be easy to understand and easy to implement. It should contain criteria for measuring and evaluating the effectiveness of the following:

- On-time performance
- Cost-effectiveness
- Load factors
- Headways
- Proposed service changes (new, revised, discontinued).

In conjunction with a simplified service plan, the MBTA should identify the information necessary to implement this plan and prepare a program for collecting such data on an on-going basis.

Data collection

As part of the data collection effort required to show the impacts of the fare increases, the MBTA should develop a long-term comprehensive program for collecting ridership information.

G The information requested is included as follows:

- Ridership Volumes by mode
  Chapter 5 on pages 5-1 through 5-10
- Boardings and alighting by station
  Rapid transit page 5-4
  Commuter rail page 5-13
- System capacity by line present and future
  Rapid Transit and Green Line page 5-19
  Bus and Trackless Trolley page 5-19 to 5-20
  Commuter Rail page 5-21
- Number of transfers (estimate) page 11-12
- Method of fare payment Tables 8-6, 8-7 (pages 8-14 and 8-16)

- Ridership by time of day
  Information on ridership by time of day is collected for the bus system as a portion of the Corridor Bus studies. For the Rapid Transit System, the MBTA is currently updating its time of day data as a portion of the Rapid Transit Count Project. This data will be compiled shortly. For the Commuter Rail system such information is available as part of the standard conductor counts.

H The report provides a Socioeconomic Analysis in Chapter 8, specifically on pages 8-34 through 8-48. The impacts of fare policy by income, age and purpose are addressed there.

Data collection (continued)

Information collected should include the following:

- Ridership volumes by individual rapid-transit, commuter rail, boat, and bus line.
- Boardings and alightings by station.
- System capacity by line.
- Number of passengers transferring (within and between modes)
- Method of fare payment
- Ridership by time of day.

G

Socioeconomic analysis

The MBTA should look at the impacts of any fare policy by income, age, and trip purpose.

H

If appropriate, the report should propose options for direct and indirect subsidy programs.

Thank you for this opportunity to comment.

Sincerely,

Richard A. Dimino
Commissioner

3383T
RAD/SB

RESPONSE TO COMMENTS
PRIVATE CITIZEN
STEPHEN H. KAISER, Ph.D
(MARCH 28, 1989)

A The requested data was included in the Supplemental Draft wherever possible – predominantly in Chapter 5 on pages 5-1 through 5-14. Spider maps of the transit and commuter rail systems have been included. Pass sales and resulting pass ridership has been identified where possible.

3/31/89 - copies to D.O. Kruston, C.B. Steward

191 Hamilton Street
Cambridge, Mass. 02139
March 27, 1989

Steven C. Davis
Director, Environmental Review
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Mass. 02202

Subject : Scope for MBTA Revenue and Service Environmental Impact Report EOEA # 7551

Dear Mr. Davis,

The proposed EIR should ideally be an annual report, updated as new data and measurement methods are obtained. I would prefer that the emphasis be placed on service measurements, because the value of budgets and revenues generally is fairly self-sustaining, while service values tend to lost in the maze of priorities. The MBTA has a tendency also to stress the importance over construction, with less stress on service, while the primary purpose for the existence of the MBTA is not construction or revenues but service.

SCOPE FOR SERVICE ISSUES IN THE EIR

A

Data should include the most important measures of efficiency, including trip distances and trip times, average trip speed, best/worst speeds and statistic measures of variations in speed, and a comparison with schedules trip times. Variations in scheduled departure times from terminals should also be recorded.

Ridership data should include measurements of December riders as recorded traditionally on the "spider maps", covering a period of 1945 through 1988. Under no circumstances should there be a limited ridership view which looked at system performance only from 1980, the dark days of Barry Locke. Data on seasonal variations and other ridership counts should also be included where appropriate.

The introduction of passes has made ridership comparisons more difficult in recent years. The EIR should evaluate pass usage and the effects on ridership for the period 1970-1988.

Some estimate should also be made of the unmeasured riders and related lost revenues, sue to violators/non-paying riders, pass misuse and skimmed tokens or other fraud. The Garden State Parkway in New Jersey estimates a 2% loss of revenue due to slugs or toll avoidance. What is the violation percentage for the MBTA?

B These operational issues are discussed in terms of the service and performance guidelines which are used by the MBTA. These are described in Chapter 4 on pages 4-26 through 4-31.

B The largest issue facing the MBTA is the wide perception by many of its riders that the service is inefficient, erratic and uncaring. The EIR should deal with each of these issues at some length with candor and sensitivity. Causes of line instability should be identified, such as loading surges, uneven release of trains or buses from terminals, random flow frictions along the travel routes, inadequate monitoring of impending instability, lack of response mechanisms to restore line stability, and union sabotage. The EIR should also evaluate and propose methods to avoid instability in the system, so that even spacing and loading of vehicles can be maintained to the highest level feasible.

In terms of service alternatives, there should be general service goals set for improvement. I suggest that alternative service goals be directed towards improvements of 5%, 10% and 20% compared to existing service. Historically, the Boston transit system worked much better in the 1940s and 1950s, and before. It is this performance of decades past which should serve as the benchmark for transit performance and possibilities. The performance of the Barry Locke era should not serve as this benchmark.

I am also confirming that I plan to prepare a transit performance evaluation report (with primary focus on the Green Line), as well as a management evaluation report. Both of these studies will represent an independent effort which is parallel to the MBTA EIR, and I would hope to have my reports available for circulation and comment during the MEPA review period for the revenue/service EIR.

Sincerely,

Stephen H. Kaiser
Traffic & Transportation Engineer

RESPONSE TO COMMENTS
PRIVATE CITIZEN
STEPHEN H. KAISER, Ph.D
(MARCH 14, 1989)

A Efficiency reviews occur at many levels within the MBTA and management strategies are employed on a regular basis to improve efficiency. On a system-wide level, after employing a great many strategies to improve efficiency, the MBTA was able to reduce the cost of operating each service mile by 3.5%. Although this indicates that improvements in efficiency can be made, a 10% annual improvement appears very optimistic.

191 Hamilton Street
Cambridge, Mass. 02139
March 14, 1989

Steven C. Davis, MEPA Director
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Mass. 02202

Subject : Alternatives to the proposed Fare Increase (EOEA #7551)

Dear Mr. Davis,

The MBTA has estimated that the proposed 1989 fare increase for the transit system will increase fare revenues from 30% of operating costs to 33% of operating costs. Based on a 1990 budget of approximately $400 million, the fare revenues would rise from $120 million to $132 million. The net increase in revenues would be about $12 million.

A One reasonable alternative to a fare increase is a systemwide improvement in efficiency. Some lines are running better than others, but let us assume that a feasible first objective is an average improvement of 10% in system efficiency. In other words, the same equipment and personnel would produce a 10% increase in service and riders, with a 10% increase in revenues. Such a change would yield an additional $12 million, which is equivalent to the proposed fare increase.

One important difference between the fare increase and the efficiency improvement is that a fare increase inevitably results in reducing ridership, due to the effects of fare elasticity. By contrast, improved efficiency produces more riders and less necessity to use other nodes of transportation, such as automobiles. In terms of fundamental environmental values, an efficiency increase should be distinctly preferred to a fare increase.

The issue before MEPA is whether or not an EIR should be prepared on the effects of a fare increase, and whether or not a fare increase should be allowed immediately, or after the completion of the EIR. I strongly feel that an EIR should be prepared covering the alternate fare increases and efficiency improvements. I also do not believe that an immediate fare increase is justified, given the feasible alternative of an efficiency improvement and the potentials for significantly more ridership on the transit system.

Sincerely,

Stephen H. Kaiser

Stephen H. Kaiser, PhD
Traffic & Transportation Engineer

RESPONSE TO COMMENTS
CONSERVATION LAW FOUNDATION
ANDREW HAMILTON
(OCTOBER 27, 1989)

CLF Conservation Law Foundation of New England, Inc.

3 Joy Street
Boston, Massachusetts
02108-1497

(617) 742-2540
Fax: (617) 523-8019

October 27, 1989

Thomas P. Glynn
Massachusetts Bay
Transportation Authority
Construction Directorate
Ten Park Plaza
Boston, MA 02116

Dear Mr. Glynn,

As a member of the Citizens Advisory Committee on the MBTA's Revenue and Service Environmental Impact Report and, as you know, a consistent advocate for transit usage, I must comment on the Authority's handling of the parking fee increases at commuter rail stations. While it is conceivable that parking revenues are an appropriate source of additional revenue for the MBTA, we were greatly chagrined by the manner in which information was delivered to the public, the timing of the announcement relative to ongoing ridership surveys, and the wholesale absence of market research to determine the impact on ridership.

The Authority did itself a great disservice, and failed in its responsibilities under state law, in failing to make a more thorough calculation of the market response to the announced increases. I have heard personally from several commuters that the proposed parking fee increase would make parking in Boston comparatively more affordable, and thus would eliminate a major disincentive to drive. In other cases, the fact that commuters were not consulted beforehand was viewed as a great affront, and could lead to a spiteful -- though not altogether rational -- decision to drive into Boston instead of using commuter rail service. Combined with the 1989 commuter rail fare increases, and the rapid transit fare increase, and given the possible impact on commuting habits, it could be argued that the proposed parking fee increase triggers the statutory requirement of full environmental impact review under 301 CMR 11.25(19) or 11.27(2)(a). The Authority should <u>always</u> have pertinent data in hand to justify increased charges to passengers.

The manner in which the proposed increase was announced was also troublesome. Historically, the MBTA has not been a model of public relations savvy. This was apparent with some aspects of the rapid transit fare increase this spring. However, the

Vermont Office • 9 Bailey Street • Montpelier, VT 05602 • (802) 223-5992

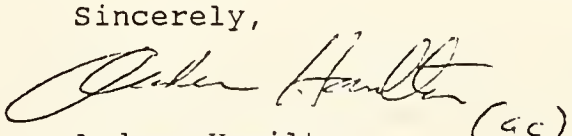
extraordinary public information campaign that was implemented during the week the fare increase became effective demonstrated the Authority's new understanding that patrons are paying customers who must be won over with appropriate incentives and timely information. It is grossly unfortunate that this realization was somehow forgotten during the consideration and subsequent announcement of the commuter rail parking fee increases.

The role of the Citizens Advisory Committee -- a potential ally -- was also ignored. Two days before the flyers announcing the fee increases were distributed the CAC met to discuss the first draft of the EIR with Don Kidston and the Central Transportation Planning Staff, which is writing the report. Our discussion included the potential for additional parking revenues, yet we were not informed that increases were imminent. We were therefore unable to discuss the possible effects of the fee increases (those at either the commuter rail stations or at the rapid transit stations) on the ongoing ridership survey required by the Secretary's Certificate on the EIR. In the future, it is distinctly within the Authority's interest to avoid this sort of oversight, which will always appear to some as purposeful avoidance of criticism or meaningful environmental impact review.

At the upcoming public hearings on the parking fee increase, CLF will take the position that unless credible research shows that market demand for station parking will support an increase in fees, the increases as announced should not go forward.

Having said that, let me emphasize that CLF does not wish to be simply another critic of an agency that receives attention only for the times it performs imperfectly. Rather, we wish to express our displeasure over this particular issue and, having done so, offer continued -- and more frequent -- input in our ongoing mutual efforts to improve and expand service and to communicate with the public.

Sincerely,



Andrew Hamilton
Staff Scientist

cc. Frederick P. Salvucci, EOTC

RESPONSE TO COMMENTS
CONSERVATION LAW FOUNDATION
DOUGLAS I. FOY
(MARCH 14, 1989)

A While there is a belief that 1981 understandings regarding Massachusetts Environmental Policy Act (MEPA) requirements for the MBTA fare increases were superseded by revisions to the MEPA Regulations, all parties have agreed to the preparation of an EIR as evidenced by this document.

B These mitigation measures were implemented as described.

CLF Conservation Law Foundation of New England, Inc.

3 Joy Street
Boston, Massachusetts
02108-1497
(617) 742-2540

March 14, 1989

John DeVillars
Secretary, Executive Office
of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Re: MBTA Rapid Transit/Express Bus Fare Increase, EOEA No. 7551

Dear John,

Fred Salvucci and I met yesterday to discuss CLF's position on the Environmental Notification Form for the MBTA's proposed fare increase. We agreed that it would be helpful for your certificate to use a slightly different legal analysis than suggested in our February 23 comments to achieve the same result: allowing the fare increase to proceed while ensuring thorough environmental review of the MBTA's evolving fare and revenue policies.

A CLF continues to believe that the MBTA's 1981 commitment to then-Secretary Bewick creates a binding obligation to conduct an EIR and Socioeconomic Impact Report (SIR) "every time it increases its fares." (This obligation remains in effect until an alternative mitigation policy is adopted; the scope for the EIR discussed below should accordingly require a discussion, in the mitigation section, of future revenue measures that would trigger supplemental or additional EIRs or SIRs.) This mitigation obligation is one basis for MEPA jurisdiction over the proposed fare increase and I urge you to cite this jurisdictional basis in your certificate.

B While you have the authority to order preparation of an EIR, however, CLF believes that the EIR requirement should be waived with respect to this fare increase. As you know, such a waiver is appropriate only if the adverse impacts of the project are "insignificant." The short-term impacts of this one-time increase should be insignificant if the MBTA takes the following mitigation measures prior to raising fares:

(1) Implementing a program for selling 10-packs of tokens for the price of nine;
(2) Freezing pass prices at current rates until at least July 1, 1989 and using the intervening period to evaluate

B See preceeding page.

C This report examines the consequences of the 33% fare recovery policy in Chapter 10, specifically on pages 10-6 through 10-27. Estimated ridership and air quality are provided on these pages.

D The comment was noted in the preparation of the work scope and is included in shaping the document as CLF remains active as a member of the Revenue and Service Citizens Advisory Committee.

alternative price structures, including basing pass prices on fewer than 18 round trips; and
(3) Developing a methodology for estimating ridership using passenger counts and conducting a ridership count to establish baseline data for use in the fare policy EIR.

B

Secretary Salvucci has agreed to meet these three conditions before the effective date of the fare increase. To ensure that this necessary mitigation occurs, CLF asks that your certificate require these actions to be taken as a condition of receiving the waiver of the EIR requirement.

CLF continues to view this and other recent fare increases as only the first steps in a longer-term program to increase the MBTA's operating revenues. Secretary Salvucci agrees that full implementation of the Advisory Board's policy of having MBTA farebox revenues cover 33% of operating costs could require systemwide fare increases of 30% or more over a three year period. Based on this, and the MBTA's 1981 commitment, CLF urges you to order the MBTA to promptly (within one year) prepare an EIR on the proposed action of adopting the Advisory Board's policy. This EIR should evaluate the environmental and socioeconomic consequences of fare increases and weigh them against the consequences of relying on other sources of revenue.

C

The primary difference between this analysis and that presented in our February 23 comments is that CLF is no longer asking that the MBTA be required to prepare a Mitigation Report prior to raising fares. None of these comments should be interpreted to alter the substance of CLF's earlier submission. We are still seeking all of the same substantive analyses and would like to have the analyses we originally called for in a mitigation document included within the scope of the fare policy EIR.

D

We all share a desire to ensure that the MBTA has sufficient revenue to enhance service and increase ridership. CLF believes that the MEPA review outlined above and in our February 23 comments will ensure both that the MBTA board can vote promptly on the fare increase proposal and that the adverse socioeconomic and environmental impacts of this and any future increases will be thoroughly evaluated and minimized.

Sincerely,

Douglas I. Foy
Executive Director

cc: Steve Davis
Fred Salvucci

RESPONSE TO COMMENTS

METROPOLITAN AREA PLANNING COUNCIL

DAVID SOULE AND 9 TOWNS

(MARCH 10, 1989)

This letter also acts as a cover letter for comments from the following communities: Stoughton, Natick, Cohasset, Lexington, Needham, Milton, Hingham, Norwood and Woburn.

Metropolitan Area Planning Council

60 Temple Place, Boston, Massachusetts, 02111·617-451-2770

serving 101 cities and towns in Metropolitan Boston

March 10, 1989

The Honorable John DeVillars, Secretary
Executive Office of Environmental Affairs
MEPA Unit
100 Cambridge Street
Boston, MA 02202

Project Identification

Project Name: 1989 Fare Increase — EOEA#: 7551

Project Proponent: MBTA — MAPC: ENF-89-56

Location: Metropolitan Boston — Received: 2/23/89

Dear Secretary DeVillars:

In accordance with the provisions of Chapter 30, Section 62, of the Massachusetts General Laws, the Council has reviewed the Environmental Notification Form identified above and offers the following comments:

1. ____ Environmental Notification Form adequate; no Environmental Impact Report should be required

2. X Before a determination can be made as to whether or not an Environmental Impact Report should be required, additional information should be provided on ( ) probable environmental impacts, (x) alternatives to proposed action, and/or ( ) measures proposed to mitigate probable impacts.

3. ____ An Environmental Impact Report ( ) should be required, ( ) is categorically required.

4. X Additional comments are attached.

Sincerely,

David C. Soule
Executive Director

DCS/JN/mlm
cc: Richard Dimino, MAPC Rep., Boston
Jane Chmielinski, MBTA
John Noorjanian, MAPC Staff

A Variables influencing MBTA ridership are addressed on pages 8-1 through 8-11.

B Alternatives for funding the MBTA are addressed in Chapter 9.

C Environmental and socioeconomic impacts of the fare increase are addressed on pages 8-28 through 8-51.

D Ridership and revenue impacts of alternative revenue raising (fare) options are addressed on pages 10-6 through 10-22.

Additional Comments

The Metropolitan Area Planning Council, like the MBTA, is committed to maximizing ridership. MAPC, although sensitive to state budgetary cutbacks and an unmet fare recovery ratio, believes that continued and uninterupted ridership growth is a most important objective.

In the ENF, the MBTA projects that a proposed increase averaging 13% will approximately offset one year's ridership growth. Quantitatively, 10,000 fewer riders would utilize the system. Given MAPC's recent challenge that MBTA ridership be increased by 5% per year, there is a concern that the full impacts are not clear.

A MAPC suggests an analysis of the effects on ridership and revenue given changes in other variables. For example, would increased parking or an improvement in service increase ridership to compensate for a fare increase?

B It has been mentioned that alternative revenue enhancements, identified by the MBTA Advisory Board, have not been given due consideration. The CLF raises another important point that the MBTA does not have an overall revenue strategy in place to employ when increased revenues are needed. MAPC suggests that all other viable alternatives be studied for their impacts on revenue and ridership.

C Please note also that an analysis of the socioeconomic and environmental impacts using ridership data, currently being collected by the Central Transportation Planning Staff on behalf of the MBTA, is not complete and therefore the impact of a fare increase is yet uncertain.

D We would suggest that additional analysis be performed so that the effects on ridership can be assessed under different revenue raising options, reflecting service options and constraints.

E Most commuter rail riders travelling to Ruggles, Back Bay and South Station board trains at more distant stations than Readville and Hyde Park. The limited market for the shuttle service which has been described makes it impractical at the present time.

F Using easily divisible fares has been adopted where possible. In some cases, however, it made fares inequitable and in such cases, fares not divisible (ie. local bus fares) were retained.

Metropolitan Area Planning Council

60 Temple Place, Boston, Massachusetts, 02111 · 617-451-2770

serving 101 cities and towns in Metropolitan Boston

DATE: February 13, 1989

I.D. #: ENF-89-56

E

Shuttle commuter rail service between Readville Hyde Park - Ruggles - Back Bay South Station would alleviate crowding on trains & platforms & provide faster more efficient ride for long distance passengers

TO: Stan Zoll
(Please Fill In)

COMMUNITY: Stoughton
(Please Fill In)

Enclosed is a description of the project referenced below.

The Council requests that you consider whether this report adequately describes the project's impact upon your community and addresses significant environmental benefits and potential damages.

PROJECT TITLE: MBTA 1989 Fare Increase

THE COUNCIL HAS ONLY 20 CALENDAR DAYS TO FILE COMMENT WITH E.O.E.A. TO MEET THIS DEADLINE, YOUR COMMENTS MUST BE RECEIVED AT THE MAPC BY MARCH 2, 1989

☐ ADEQUATELY DESCRIBES ENVIRONMENTAL IMPACTS

☐ MERITS FURTHER ENVIRONMENTAL STUDY

☐ NEED MORE INFORMATION

EXPLANATORY COMMENTS:

F

Fare increases should ~~reflect~~ be based on coverage of additional costs incurred since the last ~~fare~~ fare change ~~but~~ and should "reflect" collection ease to improve efficiency - Fares divisible by 25¢ (e.g. 750 rapid transit, 50¢ local bus, 2.00 express bus, etc) make exact change needed by riders. MBTA collectors easier to retain + use.

SIGNATURE: Stan Zoll

DATE: 2-20-89

G The air quality impacts of the fare increase are analyzed in Chapter 8 on pages 8-48 through 8-51.

Metropolitan Area Planning Council

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serving 101 cities and towns in Metropolitan Boston

DATE: February 13, 1989

I.D. #: ENF-89-56

TO: Elizabeth A. Bransfield
(Please Fill In)

COMMUNITY: Natick
(Please Fill In)

Enclosed is a description of the project referenced below.

The Council requests that you consider whether this report adequately describes the project's impact upon your community and addresses significant environmental benefits and potential damages.

PROJECT TITLE: MBTA 1989 Fare Increase

THE COUNCIL HAS ONLY 20 CALENDAR DAYS TO FILE COMMENT WITH E.O.E.A. TO MEET THIS DEADLINE, YOUR COMMENTS MUST BE RECEIVED AT THE MAPC BY MARCH 2, 1989

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☐ NEED MORE INFORMATION

EXPLANATORY COMMENTS:

An increase in fares is overdue. Though ridership may be affected when the change occurs, the increased fare is still cheaper than taking one's car to work. There is some concern for air quality, which has to be addressed.

G

SIGNATURE: Elizabeth A. Bransfield

DATE: 2/27/89

3/1

Metropolitan Area Planning Council

60 Temple Place, Boston, Massachusetts, 02111 · 617-451-2770

serving 101 cities and towns in Metropolitan Boston

DATE: February 13, 1989

I.D. #: ENF-89-56

TO: Martha Gjesteby
(Please Fill In)

COMMUNITY: Cohasset
(Please Fill In)

Enclosed is a description of the project referenced below.

The Council requests that you consider whether this report adequately describes the project's impact upon your community and addresses significant environmental benefits and potential damages.

PROJECT TITLE: MBTA 1989 Fare Increase

THE COUNCIL HAS ONLY 20 CALENDAR DAYS TO FILE COMMENT WITH E.O.E.A. TO MEET THIS DEADLINE, YOUR COMMENTS MUST BE RECEIVED AT THE MAPC BY MARCH 2, 1989

- [X] ADEQUATELY DESCRIBES ENVIRONMENTAL IMPACTS
- [ ] MERITS FURTHER ENVIRONMENTAL STUDY
- [ ] NEED MORE INFORMATION

EXPLANATORY COMMENTS:

Selectmen vote 3-2 to support the fare increase proposal. Letter to support was being sent.

SIGNATURE: Martha K. Gjesteby

DATE: Feb 28, 1989

A-141

3/1/89

Town Mgr. Frick

Metropolitan Area Planning Council

60 Temple Place, Boston, Massachusetts, 02111 • 617-451-2770

serving 101 cities and towns in Metropolitan Boston

DATE: February 13, 1989

I.D. #: ENF-89-56

TO: ~~[illegible]~~ Angela E. Frick
(Please Fill In)

COMMUNITY: Lexington
(Please Fill In)

Enclosed is a description of the project referenced below.

The Council requests that you consider whether this report adequately describes the project's impact upon your community and addresses significant environmental benefits and potential damages.

PROJECT TITLE: MBTA 1989 Fare Increase

THE COUNCIL HAS ONLY 20 CALENDAR DAYS TO FILE COMMENT WITH E.O.E.A. TO MEET THIS DEADLINE, YOUR COMMENTS MUST BE RECEIVED AT THE MAPC BY MARCH 2, 1989

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☐ MERITS FURTHER ENVIRONMENTAL STUDY

☐ NEED MORE INFORMATION

EXPLANATORY COMMENTS:

Altho fare increases are not welcome, they are preferable to increased traffic and the associated environmental impact of air quality. The Board of Selectmen voted unanimously to support the proposed increase at its regularly scheduled meeting on Monday, February 27, 1989

SIGNATURE: Angela E. Frick

DATE: Feb. 27, 1989

A-143

Metropolitan Area Planning Council

60 Temple Place, Boston, Massachusetts, 02111 • 617-451-2770

serving 101 cities and towns in Metropolitan Boston

MAR

DATE: February 13, 1989

I.D. #: ENF-89-56

TO: Alice E. McCarthy
(Please Fill In)

COMMUNITY: Milton
(Please Fill In)

Enclosed is a description of the project referenced below.

The Council requests that you consider whether this report adequately describes the project's impact upon your community and addresses significant environmental benefits and potential damages.

PROJECT TITLE: MBTA 1989 Fare Increase

THE COUNCIL HAS ONLY 20 CALENDAR DAYS TO FILE COMMENT WITH E.O.E.A. TO MEET THIS DEADLINE, YOUR COMMENTS MUST BE RECEIVED AT THE MAPC BY MARCH 2, 1989

- [x] ADEQUATELY DESCRIBES ENVIRONMENTAL IMPACTS
- [ ] MERITS FURTHER ENVIRONMENTAL STUDY
- [ ] NEED MORE INFORMATION

EXPLANATORY COMMENTS:

SIGNATURE: Alice McCarthy

DATE: FEB 27, 1989

3/1/89

Metropolitan Area Planning Council

60 Temple Place, Boston, Massachusetts, 02111 · 617-451-2770

serving 101 cities and towns in Metropolitan Boston

DATE: February 13, 1989

I.D. #: ENF-89-56

TO: Norman Hamsy
(Please Fill In)

COMMUNITY: Needham
(Please Fill In)

Enclosed is a description of the project referenced below.

The Council requests that you consider whether this report adequately describes the project's impact upon your community and addresses significant environmental benefits and potential damages.

PROJECT TITLE: MBTA 1989 Fare Increase

THE COUNCIL HAS ONLY 20 CALENDAR DAYS TO FILE COMMENT WITH E.O.E.A. TO MEET THIS DEADLINE, YOUR COMMENTS MUST BE RECEIVED AT THE MAPC BY MARCH 2, 1989

☐ ADEQUATELY DESCRIBES ENVIRONMENTAL IMPACTS

☐ MERITS FURTHER ENVIRONMENTAL STUDY

☐ NEED MORE INFORMATION

EXPLANATORY COMMENTS:

No Comment.

SIGNATURE: Norman A. Hamsy

DATE: Feb. 28 1989

Metropolitan Area Planning Council

60 Temple Place, Boston, Massachusetts, 02111 • 617-451-2770

serving 101 cities and towns in Metropolitan Boston

DATE: February 13, 1989

I.D. #: ENF-89-56

TO: William F. Sullivan
(Please Fill In)

COMMUNITY: Hingham
(Please Fill In)

Enclosed is a description of the project referenced below.

The Council requests that you consider whether this report adequately describes the project's impact upon your community and addresses significant environmental benefits and potential damages.

PROJECT TITLE: MBTA 1989 Fare Increase

THE COUNCIL HAS ONLY 20 CALENDAR DAYS TO FILE COMMENT WITH E.O.E.A. TO MEET THIS DEADLINE, YOUR COMMENTS MUST BE RECEIVED AT THE MAPC BY MARCH 2, 1989

- [x] ADEQUATELY DESCRIBES ENVIRONMENTAL IMPACTS
- [ ] MERITS FURTHER ENVIRONMENTAL STUDY
- [ ] NEED MORE INFORMATION

EXPLANATORY COMMENTS:

SIGNATURE: William F. Sullivan

DATE: Feb 21 1989

Metropolitan Area Planning Council
60 Temple Place, Boston, Massachusetts, 02111 • 617-451-2770
serving 101 cities and towns in Metropolitan Boston

DATE: February 13, 1989 FEB 24

I.D. #: ENF-89-56

TO: Bernard Cooper
(Please Fill In)

COMMUNITY: Norwood
(Please Fill In)

Enclosed is a description of the project referenced below.

The Council requests that you consider whether this report adequately describes the project's impact upon your community and addresses significant environmental benefits and potential damages.

PROJECT TITLE: MBTA 1989 Fare Increase

THE COUNCIL HAS ONLY 20 CALENDAR DAYS TO FILE COMMENT WITH E.O.E.A. TO MEET THIS DEADLINE, YOUR COMMENTS MUST BE RECEIVED AT THE MAPC BY MARCH 2, 1989

- [x] ADEQUATELY DESCRIBES ENVIRONMENTAL IMPACTS
- [ ] MERITS FURTHER ENVIRONMENTAL STUDY
- [ ] NEED MORE INFORMATION

EXPLANATORY COMMENTS:

SIGNATURE: Bernard Cooper

DATE: 2-24-89

Metropolitan Area Planning Council
60 Temple Place, Boston, Massachusetts, 02111 · 617-451-2770
serving 101 cities and towns in Metropolitan Boston

FEB 24

DATE: February 13, 1989

I.D. #: ENF-89-56

TO: John M. Cashell
(Please Fill In)

COMMUNITY: Woburn
(Please Fill In)

Enclosed is a description of the project referenced below.

The Council requests that you consider whether this report adequately describes the project's impact upon your community and addresses significant environmental benefits and potential damages.

PROJECT TITLE: MBTA 1989 Fare Increase

THE COUNCIL HAS ONLY 20 CALENDAR DAYS TO FILE COMMENT WITH E.O.E.A. TO MEET THIS DEADLINE, YOUR COMMENTS MUST BE RECEIVED AT THE MAPC BY MARCH 2, 1989

- [x] ADEQUATELY DESCRIBES ENVIRONMENTAL IMPACTS
- [ ] MERITS FURTHER ENVIRONMENTAL STUDY
- [ ] NEED MORE INFORMATION

EXPLANATORY COMMENTS:

SIGNATURE: J. M. Cashell

DATE: 2/23/89

RESPONSES TO COMMENTS
BOSTON REDEVELOPMENT AUTHORITY
PAUL REAVIS
(MARCH 9, 1989)

A The Fare increase has not had a significant negative impact on the air quality within the City of Boston. Estimates of ridership change show a small ridership loss and there is not expected to be any resulting

BOSTON
REDEVELOPMENT
AUTHORITY

Raymond L. Flynn
Mayor

Stephen Coyle
Director

One City Hall Square
Boston, MA 02201
(617) 722-4300

3.9 '89

Secretary John P. DeVillars
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

ATTN: MEPA Unit

RE: EOEA #7551: MBTA 1989 Fare Increase

Dear Secretary DeVillars:

Pursuant to regulations implementing M.G.L., Chapter 30, Sections 62-62H, the Boston Redevelopment Authority has reviewed the above-referenced Environmental Notification Form and submits the following comments:

The Massachusetts Bay Transportation Authority (MBTA) is proposing to increase its rapid transit base fare (Zone I) from 60 to 75 cents with proportionate increases in fares for Zones II and III, and to increase express bus fares by 40 cents. The rationale for this increase is that the MBTA fares have been constant since 1982 while MBTA operating costs have risen substantially. At the same time, Federal aid to the MBTA has dropped by a significant amount, resulting in increased financial burdens on the cities and towns in the MBTA District and on the Commonwealth. A fare increase, therefore, is considered to be necessary in order to meet the Advisory Board's policy of requiring the MBTA to meet a 33% fare recovery ratio.

In its analysis of the potential impact of the fare increase, the Authority has predicted that the proposed increase would be likely to slow the growth in rapid transit and express bus ridership and could even reduce rapid transit ridership by as much as 20,000 daily trips. This loss, in turn, would lead to an increase in automobile traffic, especially to downtown Boston.

A In particular, we are concerned that at a time when the City is attempting to reduce commuter use of private automobiles and to encourage greater reliance on the public transportation system, the fare increase would have the opposite effect and would result in even more automobile traffic on the already overburdened downtown streets. More traffic would lead to increasing congestion on the major expressways serving the downtown and on local

A (continued from previous page)
increase in traffic volumes. This is due primarily to the limitation of parking at rates comparable to the cost of transit, even at increased fares. Air quality and socioeconomic impacts of the fare increase are discussed further on pages 8-34 through 8-52.

B Other potential revenue sources are explored in Chapter 9. See especially Table 9-1 on page 9-11 and 9-12 and the associated discussion on pages 9-10 through 9-28.

streets, which, in turn, could result in further degradation of the city's air quality. In addition, a substantial number of the city's residents, especially those from the lower-income areas of Roxbury, Dorchester, the South End, Chinatown, and elsewhere, are
A dependent on rapid transit to travel to jobs, shopping, educational resources, and other facilities, and the increase in fares would put a burden on those least able to afford it. Because of this impact, the Flynn administration consistently has opposed any increase in fares on MBTA bus and rapid transit service.

Although the ENF indicated that the MBTA considered numerous options to improve the fare recovery ratio, few of these alternatives were listed. We would recommend, therefore, that
B before this fare increase is put into effect, the MBTA explore other potential financial options for meeting their budgetary needs. However, we do agree with the Authority that the possibility of reducing service as a means of improving financial performance should be rejected from further consideration.

Sincerely,

Paul Reavis
Assistant Director for
Engineering and Design Services

PR:RM/lmc

cc: Jane Chmielinski
M.B.T.A.

RESPONSE TO COMMENTS
MBTA ADVISORY BOARD
FRANCIS X. MCCAULEY
(MARCH 7, 1989)

MBTA Advisory Board
120 Boylston Street, Suite 504, Boston, Massachusetts 02116 Tel. 617-426-6054

March 7, 1989

Mr. Steven Davis
MEPA Unit
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Dear Mr. Davis:

Enclosed are comments of the MBTA Advisory Board on the Environmental Notification Form for the Massachusetts Bay Transportation Authority fare increase, EOEA No. 7551. If you have any questions concerning these comments, please contact Anne Larner, Executive Director of the Advisory Board.

Sincerely,

Francis X. McCauley
Chairman

FXMcC/ljh

Enclosure

cc: A. Larner

A The MBTA agrees with the concept of modest and infrequent fare changes whenever fare increases become necessary.

B The MBTA concurs.

MBTA Advisory Board
120 Boylston Street, Suite 504, Boston, Massachusetts 02116 Tel. 617-426-6054

COMMENTS OF THE MBTA ADVISORY BOARD
on the Environmental Notification Form for the Massachusetts Bay Transportation Authority fare increase on rapid transit and express buses.
EOEA # 7551

Mass transit is essential to the economic and social well being of communities in eastern Massachusetts. It is in the interest of those communities that continuing efforts be made to encourage increased ridership, to expand available transit service, and generally to provide an effective and efficient alternative to travel by automobile.

Stabilizing the funding for transit operating costs is critical if transit in the Greater Boston area is to be maintained and strengthened. Key to stabilizing funding for the Massachusetts Bay Transportation Authority is development of a policy which paces T generated income, including fares, with T expenses. Within this framework the MBTA Advisory Board has for the past five years held the position that fares should cover a minimum of 33% of the direct operating cost of T service and that modest, reasonably timed fare increases are in the long run best interest of public transit and of regular riders.

A Small increases at three to five year intervals have the least negative impact on riders, especially those who are low income and transit dependent. Such changes have a positive impact on general political support for public transit by sending a strong message of continuing partnership between rider and public with each paying a fare share of the costs of the system.

B The process for review of fare increase proposals should encourage responsible action and discourage increases that are disruptive. Modest fare increases in the range proposed by the MBTA in its ENF should be allowed without the necessity of filing an EIR. Current regulations providing for an EIR when fares are raised more than 30% within a three year period are more than adequate to protect the interests of the State and its citizens

B See previous page.

B

from unreasonable increases which might have a strong negative impact on the environment and on riders. Given Massachusetts history, fares increases (in the long run) are inevitable even though few if any politicians wish to be recorded in favor of actual increases. Given the natural political resistance to any fare hikes yet the necessity to occasionally increase fares if political support is to be maintained, the MEPA process and regulations ought to be structured to encourage increases that have the least negative impact on the environment and on ridership. Minimum regulation and simplicity of process for modest fare increases and a rigorous review with substantial regulation for increases greater than 30% best serve the public interest.

RESPONSE TO COMMENTS
CITY OF BOSTON
RICHARD A. DIMINO
(FEBRUARY 28, 1989)

A Local bus fares were left unchanged at 50¢ in an effort to mitigate the impacts of the fare increase on low income residents. In addition, measures were taken to soften the effects of the increase on the elderly, children and students and for persons with disabilities. For all services with a base fare of 75¢ or less the fare for the elderly and for persons with disabilities were held constant at 10¢. For higher priced trips, the discount provided remained at 50 percent. For children and students the price also remained at 50 percent.

TESTIMONY
delivered by Boston Transportation Commissioner
Richard A. Dimino
regarding
PROPOSED MBTA FARE INCREASE

28 February 1989

Boston is the financial, commercial, and cultural center of New England. Transit has helped the City accommodate its recent growth, and the MBTA will play an even greater role in ensuring the continued vitality of the City and regional economy during the next decade.

Many of Boston's residents depend upon the MBTA for access to the City's economy and services. In nearly two out of five households across the City residents do not own automobiles; in some communities the proportion rises to more than half. In one household out of three citywide residents rely on transit for their work trip, and in parts of Dorchester and Roxbury nearly half the residents use the MBTA on their daily work trip.

Because so many of the City's residents rely on public transportation, the Flynn Administration has consistently opposed any increase in fares on MBTA bus and rapid-transit service.

A The 1981 fare increase had a disproportionate impact on residents like these, and we believe that another fare increase would have a similar effect on Boston's many low-income transit-dependent residents.

For this reason, the City continues to oppose any efforts by the MBTA to increase fares for local service.

Moreover, we believe that the current proposal has a number of other serious flaws.

First, the MBTA has made no attempt to address the many inequities and inconsistencies in its fare policy.

Second, the MBTA has not provided public officials or transit riders with the information they need to evaluate the impacts of a fare increase.

Third, the public process for responding to this proposal has been inadequate.

And, finally, the Authority has misinterpreted the intent of an MBTA Advisory Board resolution to balance income and expenses.

B Fare Structure considerations are addressed in Chapter 11 of the SDEIR. Discussion of a distance-based fare can be found on pages 11-18 and 11-19.

C The impacts of the fare increase on ridership are addressed in Chapter 8 of the SDEIR. Fare structure options, including a discussion of transfers, peak-period pricing, and distance-based fares, are discussed in Chapter 11. The general discussion can be found on pages 11-1 through 1-19.

MBTA Fare Policy

The MBTA's current fare structure is complicated and inequitable. In a recent report, the Advisory Board identified many of the problems in the MBTA fare policy and proposed solutions. Two in particular are biased against city passengers.

B

First, the fare structure on the rapid-transit system favors riders making long-distance trips at the expense of city residents travelling shorter distances. Although fares are officially zoned, only three stations on the Red, Blue, and Orange Lines are located beyond Zone 1. Consequently, a trip to downtown Boston can cost 10 or 11 cents per mile from Quincy, Cambridge, or Revere. Yet costs per mile more than double for Boston residents commuting from Jamaica Plain, East Boston, or Roxbury.

Second, the MBTA does not offer a free bus-to-bus transfer -- unless you purchase a monthly pass. The cash passenger transferring between two bus lines pays twice what a passholder pays for the same trip. As a result, those who are least able to afford the up-front costs of a pass often pay a higher rate for each trip they take.

Raising subway fares by 15 cents will not address problems like these. Instead, the proposal simply perpetuates a system that is confusing and unfair. The MBTA should take the opportunity to build upon the work of the Advisory Board and evaluate its overall fare structure.

Lack of Information

C

The MBTA has not provided public officials or transit riders with the background information they need to evaluate the impacts of a fare increase. The environmental notification form calculates the number of rapid-transit trips lost in only very general terms; the impacts on Green Line and express bus riders have not yet been addressed. Proposed revisions to the pass system have not been widely circulated.

Without such information, it is impossible to evaluate the impacts of any changes to the fare policy. What groups are most affected? What trips will be lost to the system entirely? How many people will switch to automobiles? How will transfer behavior be affected?

Knowing who is affected is as important as knowing how many; understanding the consequences of a fare increase can help mitigate its impacts. Information about transportation behavior can help shape a responsible and rational fare policy.

The absence of detailed information about the impacts of changes to the fare policy suggests that the MBTA needs to improve its ability to collect data about its ridership before it can modify its fare structure.

D The SDEIR supplements the information provided in the ENF and in the other information provided by the MBTA through advertising and at the public hearings. Public involvement in the process for setting fare increases is described on pages 2-3 and 2-4 of the SDEIR.

E The Advisory Board's resolution calling upon the MBTA to achieve a 33% fare recovery ratio and its possible implications for fares and ridership is presented in Chapter 10. A number of cost reduction measures which the MBTA is undertaking or studying are presented at the start of Chapter 10, pages 10-1 and 10-2. The possibility of increasing other MBTA revenues is presented in Chapter 9 beginning on page 9-10. The discussion covers potential revenue sources from transit-related sources and then examines transit funding sources of a more general nature.

F The Socioeconomic impacts of the fare increase are presented in Chapter 8 on pages 8-34 through 8-47. A discussion on fare structure also speaks to this point and is presented in Chapter 10 in the Sections entitled "Ridership and Recovery Impacts of a 33 Percent Revenue Recovery Requirement", especially the majority of the discussion from page 10-6 through 10-24 MBTA funding options are addressed in Chapter 9 of the SDEIR.

Inadequate Public Process

D

Details about the extent of the proposal were released in a piecemeal fashion. After an initial announcement about rapid-transit fares, word trickled out about changes to express bus fares and routes, the prepaid monthly pass program, and further revisions to Green Line fares.

Although the MBTA has developed a plan for an overall fare increase, presenting the public with one piece at a time devalues the public review process.

Because of these problems with the public notification process, we ask that the comment period for this proposal be extended to incorporate information about all the fare increase proposals currently under consideration: rapid-transit, Green Line, pass program, and express bus.

Advisory Board Role

E

The MBTA Advisory Board passed a resolution in December calling upon the MBTA to achieve a 33 percent fare recovery ratio for Fiscal Year 1990. The MBTA has referred to this resolution to justify the current proposal. Unfortunately, we believe the intent of the resolution has been misinterpreted.

Rather than mandate a fare increase, the resolution sets fiscal goals for the MBTA. The resolution seeks, by July 1, 1989, "a comprehensive plan to balance income and expenses so as to maintain a 33 percent fare recovery ratio in FY90." The resolution made no direct reference to a fare increase. It referred instead to increasing overall MBTA revenues.

Environmental Impact Report

The MBTA took an important first step by eliminating local buses from the fare-increase proposal. But it is incumbent upon the Authority to show that the current proposal does not have a disproportionate impact on those least able to afford it.

F

Preparing an environmental impact report will enable the MBTA to identify and mitigate the socioeconomic and environmental impacts of the proposal. But the MBTA should evaluate this fare increase proposal in the context of its overall fare policy. The goal should be a simpler and more equitable fare structure that encourages additional ridership, covers a reasonable proportion of operating costs, and treats passengers equitably.

A financial plan that looks at ways to increase MBTA revenues without raising fares, in combination with a revised fare policy, will best serve the interests of the MBTA and the travelling public.

2935T

RESPONSES TO COMMENTS
ASSOCIATION FOR PUBLIC TRANSPORTATION
STEPHEN CHAIT
(February 28, 1989)

A MBTA Ridership estimation, data collection and service monitoring is described in Chapter 7 of the SDEIR. Alternative revenue sources are addressed in Chapter 9 of the SDEIR.

Association for Public Transportation, Inc.
P. O. Box 192, Cambridge, MA 02238
(617) 547-3332

Public Hearing
February 28, 1989
on Proposed Fare Increase on
Rapid Transit and Express Bus Service
and on the Scope for an Environmental Impact Review

Good Afternoon. I am Stephan Chait, president of the Assocation for Public Transportation, a non-profit corporation which promotes better public transit in greater Boston. We appreciate this opportunity to comment on the proposed fare increase and to contribute to scope for the Environmental Impact Review.

The Association for Public Transportation opposes the proposed fare increase. The fare increase is actually series of proposals that reflects both a lack of thought and a lack of respect for the users of the MBTA services.

In the various versions of the fare increases for commuter rail,(this proposal started as an increase in parking fees) rapid transit and the express bus service(some of which will not be express if their routes are changed), there is a lack of data, examination of alternatives, and communi cation with riders and tax payers.

In the 1983 Environmental Impact Review report for a fare increase, there were a number of recommendations made that apply today. For example, it was recommended that the T publish revenue and ridership reports in a timely manner, review fare revenue goals, and annually review of the fare structure. This information clearly would be useful in service planning.

These recommendations have not been implemented. In their 1983 MBTA Performance: MBTA Advisory Board Staff Report, the Board said, "the manner in which the Authority evaluates utilization of any particular service it offers is inadequate." In their 1989 MBTA Fares: An Analysis of Current Policy and Practice, the Board said, "Attempts to obtain comprehensive actual ridership figures to use for analysis in this study have been fruitless."

A The T has a responsibility to riders and tax payers, to have an accurate data and to use this as a basis for a fare policy. Then a proposed fare increase could be presented in a consistent and intelligent manner.

The T has made many improvements in the systems infrastructure. Now improvements in the quality and reliability of the public transportation services must be made. There must be at least some committment by the T to a process of defining and implementing performance standards, marketing programs and a

B The MBTA maintains reliable estimates of ridership. The Operations Directorate, Planning Division publishes "Ridership and Service Statistics" which provide total system ridership on a regular basis. In addition, "spider" maps with MBTA boardings by station are also published by the MBTA.
Because of the size of the MBTA, it is not cost-effective to actually count all riders, however, this does not mean that reliable estimates are unavailable. Ridership samples are taken which are designed to provide the required level of accuracy for any given project. For the MBTA Fare Increase EIR a special sampling program was conducted and the results are presented in Chapter 5, entitled MBTA Service and Ridership: Trends and Projections. See pages 5-2 through 5-14.

C Data, such as that presented in Chapter 5, is collected regularly and is available from the MBTA upon request.

D MBTA revenue requirements have recently been legislatively established as a minimum of 33% Revenue Recovery Ratio.

E MBTA Service standards are presented in Chapter 4 and include on-time performance, layover time, load factors and frequency of service, etc.

F The MBTA has initiated efforts to increase pass sales and these efforts are proving successful.

G Chapter 9 is devoted to alternative revenue source options and discusses potential income from such measures.

serious examination of alternative sources of revenues.

A Given the T is not likely to undertake such committments, we are fortunate to have the Environmental Impact Review process. As topics to be part of the scope of services for this process, the Association for Public Transportation has the following recommendations.

First, recommendations of the 1983 EIR need to be reviewed and those not implemented by the T, need to be included in the new EIR scope of work. For example, the following recommendations;

B 1. Recommendations for the T "to provide reliable estimates of ridership as required to track systems performance and project ridership and revenue,..."

C 2. Revenue and ridership reports generated from fare collection equipment readings be produced in a timely manner,

D 3. Fare revenue goals be reviewed annually and fare schedules adjusted, as appropriate, in conjunction with the MBTA's annual budget development process,...

Second, a set of performance standards must be presented and then applied to service. For example,

E vehicle load factors,
passenger wait time on platforms by rapid tranist line,
on time performance according to established schedules, and
quality control for equipment put on the street.

Third, the MBTA must market its services to attract the public. The recent ad in the Sunday Globe is one small step after years of neglect. For example, the T could market the Pass Program
F and secure more outlets for the passes. It seems the T spends more time working with the developers of hotels at 128 Station Park than it does prompting the use of the pass program.

G And fourth, the recent study of alternative revenue sources by the Advisory Board be used the basis of a program for generating alternative revenues.

In summary, shabby efforts to make the fare box bring in more revenue are not acceptable, in fact that are symptomatic of the MBTA's treatment of riders. The riders deserve respect. Respect is shown by thinking out solutions to problems, communicating with users of the system through hand outs and notices, and providing a quality and reliable service that meets stated performance standards.

Thank you

A short chronlogy of events and notices for the proposed fare increase

December 1987 - Advisory Board indicates, that 1989 communter rail subsidy will be cut and T should increase revenue not decrease service.

October 1988 - Increase Parking Fees at Communter Rail under consideration.

October 3, 1988 - As reported in the Boston Business Journal O"Leary stated no fare increases in forseeable future.

November 10,1988 - Plan for fare increase on Commuter rail is signed by O´Leary and published on November 12th

December 1, 1988 - Advisory Board informs T that subway subsidy will be reduced and set the stage for increased revenue by July 89

January 4, 1989 - T announces stepped fare increase for communter rail

January 28, 1989 - Legal Notice of subway fare increase.

January 30,1989 - No Local Bus fare increase sought

February 3,1989 - T agress to submit ENF for rapid transit fare increase

February 8, 1989 - Environmental Monitor, Environmental Notification Form describes project as increase in rapid rail system fares.

February 9, 1989 - Environmental Notification Form describes project as an increase in rapid transit lines and express bus fares.

February 18, 1989 - Notice of Public Hearing to increase the base fare for all express and premium bus routes, and to terminate North Shore bus routes at Wonderland or Wood Island Station.

RESPONSES TO COMMENTS
PRIVATE CITIZEN
CHARLES BAHNE, JR.
(February 28, 1989)

A Separate subsequent hearings were conducted on service reductions.

B The adopted fare schedule, as modified in response to public comments, appears in Chapter 6 of the report.

charles bahne, jr.
224 concord avenue
cambridge, massachusetts
02138

617/354-0539

February 28, 1989

Massachusetts Bay Transportation Authority
Attn.: Fare Increase Proposal
10 Park Plaza
Boston, Massachusetts 02116

-and-

MEPA Unit
Executive Office of Environmental Affairs
100 Cambridge Street, 20th floor
Boston, Massachusetts 02204

Re: MEPA # _____, MBTA fare increase

Testimony at Combined Public Hearing and ENF Scoping Session

February 28, 1989

Ladies and Gentlemen:

Thank you for the opportunity to comment this afternoon. My only question is: What am I supposed to comment on?

A The MBTA advertised this hearing as an opportunity to "comment on a proposal to increase the basic fare for rapid transit, central subway, and zone 1A commuter rail services to $0.75." However, the Authority's subsequent actions make it clear that other fare increases, as well as some service cuts, are planned beyond those mentioned in the legal notice for this hearing. We may not yet know what all of these increases are. We certainly don't know whether we are supposed to comment on them at this hearing, or at some future hearing which has not yet been announced.

For example:

B — Presumably the fares at Quincy Center, Quincy Adams, and Braintree will also increase proportionately. I say "presumably" because the T has not definitely stated this either in their legal notice or in the flyers which they have distributed to transit riders. As members of the public, we are entitled to know this before we are given an opportunity to comment on the fare increase.

— Presumably monthly pass prices will also increase. What will the new pass prices be? Will there be any changes in the pass system, such as which passes will be good on which services? We cannot comment on this aspect of the fare increase until we know what it is we're commenting on.

B See previous page.

C Local bus fares were unaffected by the 1989 fare increase.

B — Although neither the legal notice for this hearing nor the MBTA's flyers indicate it, the Authority has proposed a fare increase for the Riverside branch of the Green Line, from $1.50 to $1.80. This increase has officially been mentioned only in an attachment to the Authority's Environmental Notification Form; it wasn't even mentioned in the form itself. Nowhere have we been told whether the Riverside Line fare increase is a subject to be addressed at today's hearing, or whether there will be a later hearing on this matter. And, incidentally, this series of hearings is being held in Boston, north of Boston, and south of Boston -- but not west of Boston, where the Riverside Line runs.

C — Finally, when today's hearing was announced, MBTA officials said that "the increase will not affect bus fares." But in the fine print of the newspaper classifieds on February 18, we find an announcement of hearings on bus fare increases, combined with service cuts. Who is kidding whom?

This series of events is extremely disturbing. First we hear one thing, and then we read something else; at the same time, there are large gaps in the information which the MBTA has chosen to make public. As a transit advocate, I find that I must look in the legal notices in the back of each Saturday's newspaper to find out what the T is up to -- and what they are unwilling to release through normal media channels. And now we read in yesterday's Boston Globe that "Express buses are not considered to be buses." Come on, give us a break and be honest for a change. If it looks like a bus, sounds like a bus, and acts like a bus, then what is it?

Either the T itself does not know what it is doing, or it has embarked on a deliberate policy to mislead and confuse the public. There is no point in having a public hearing such as this one if the public doesn't know what it is supposed to comment on.

Furthermore, the MBTA's fare structure is a complex entity with many interrelationships. Fare changes on one mode, such as commuter rail, may affect ridership on other modes, such as express bus. Also, changing the fare of one mode or another may affect certain riders disproportionately, thus making the overall fare structure less equitable. For this reason, it makes little sense to discuss commuter rail fares one week, subway fares next week, and bus fares after that. We should have an opportunity to analyze and comment on the entire fare structure which the Authority envisions.

Therefore I am requesting that the MBTA withdraw its present fare increase proposal, and come out with <u>one</u>, revised, fare increase proposal -- complete with all information about proposed rapid transit, streetcar, bus, express bus, and commuter rail fares, as well as all monthly pass prices and policies. Any service cuts which the T is proposing should also be included in this one proposal. After this information has been released, then a new series of hearings should be held to receive public comment. No fare increase should become effective until after these new public hearings are held.

As this hearing is also being sponsored by the state Office of Environmental Affairs, I am also requesting that office to require the MBTA to withdraw the present fare increase proposal, so that the public will have

D MBTA policies are addressed in Chapter 3 of the report. Service and performance guidelines are addressed on page 4-26. Procedures in setting fares which prohibit a flexible response to variables over which the MBTA has little control such as inflation, the condition of the local economy, and federal assistance, may unduly restrict decisions on fares to the public's detriment.

E Equity, as well as simplicity is required in crafting new fares. All of the implemented fares are described in Chapter 6. Fare collection policies were left unchanged except on the Riverside line where a warrant system was implemented to reduce the Newton *local* fare. Inbound riders pay the full fare of $1.75 for the first trip and can obtain a warrant valid for an 85¢ discount on the next trip. Effectively, this reduces the round trip cost to 90¢ since there is no fare charged on outbound surface trips. Furthermore, Chapter 11 discussed revised fare structure options including a detailed discussion of the Riverside Line on pages 11- 4 (Existing Fare Structure) and 11-16, 11-17 (Revised Surface Green Line Fare Structure).

adequate opportunity for informed comment on the T's fare proposals.

I am not trying to be an obstructionist. I personally believe that a fare increase may be justified. However, I would like to have all of the relevant information -- and not be afraid that another new fare increase will be advertised in next Saturday's paper -- before commenting. The Authority has been talking about raising subway and bus fares since last November (parenthetically, just after the Presidential election). This has now been more than three months, which has been more than adequate time for the T to plan for this increase and to make the necessary information public. If the T had spent half the energy on the fare increase that it put into the glossy, four-color insert in last Sunday's Globe, then we could have gotten somewhere today.

Now that I have gotten my anger off of my chest, I would like to suggest a plan for future MBTA fare increases, whenever they may occur. I believe that the Authority should be limited to one fare increase per year. Whatever they want to increase -- commuter rail, subway, streetcars, buses -- should be announced at one time, subject to one set of public hearings, and implemented at one time. This could be done as part of the Authority's annual budget process, and ideally should be done at the same time each year.

D

It would also help matters if the T could identify, in advance, policies on matters such as fare equity, farebox recovery of operating and capital costs, and so forth. (In this regard, the Advisory Board's recent request that the T cover 33% of its operating costs with fare and other revenues is a positive sign.) Once these policies have been established, it would be a relatively simple matter for the Authority to determine fares each year. And if the public knows what to expect, the fare increase process can go much more smoothly.

I would also suggest that the Office of Environmental Affairs negotiate with the T to establish a binding procedure for future fare increases, which would ensure that all adequate information is available to the public before the public hearing process begins, and which would also ensure that all fare increases for all parts of the MBTA system can be studied and commented on at one time.

Finally, I would like to comment on two specific aspects of the present fare increase proposal:

E

First, I am opposed to the suggested Riverside Line increase to $1.80. Simplicity demands that all fares on the T's four rapid transit lines -- including the surface portions of the Green Line -- be in increments of the base fare or token price. The present practice of charging Green Line surface riders 15c more than subway riders is an anomaly which makes no sense and which is confusing to transit users. It makes for ill feelings on the part of, say, visitors to the city or infrequent transit users who are unaware of this strange artifact; and it is a disincentive to transit usage. I was pleased to hear in January that the T had apparently decided to remove this anomaly from the fare system; I was very disappointed to hear in February that the T now plans to partially restore it. In 1981 the Authority set a policy that inbound Riverside Line fares would be two

F The practice of accepting dollars bills has been examined by the MBTA, and at this time, there are no plans to accept paper currency, except at token booths. While it is agreed that accepting dollar bill would make fare payment more convenient for many riders, it would also significantly increase the cost of revenue collection. In addition to the capital cost of the new equipment, there are also lasting personnel and overhead costs (at SEPTA in Philadelphia, which is a similar size to the MBTA, 15 additional employees had to be hired to handle dollar bills when they switched to a system which accepts paper money). Considering the additional cost and current fiscal constraints, acceptance of dollar bills is not being pursued. However, the installation of change and/or ticket machines for surface Green Line stations, and possibly high volume express bus stops, is being investigated.

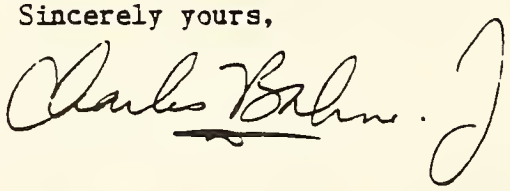
tokens. This policy made sense then and it does now, even though it was only in effect for a few months in 1981-82.

Second, with fares on the Riverside Line and on express buses approaching $2.00 -- and they will certainly exceed $2.00 in the next few years -- the T should implement a policy of accepting dollar bills. Not many people routinely carry $2.00 or more in coins in their pockets -- or $4.00 in coins for a round trip. By insisting on exact fare in coins only, the Authority is in fact eliminating a large share of the population from its potential customers. Fareboxes which accept dollar bills are available and are in use in other cities; if the MBTA's present fareboxes cannot accept bills, then they should be replaced. The Office of Environmental Affairs should require the installation of new fareboxes, on a defined timetable, as a mitigating measure for any fare increase, now or in the future, which affects any of the T's surface vehicles.

F

Once again, thank you for the opportunity to comment.

Sincerely yours,



RESPONSE TO COMMENTS
CONSERVATION LAW FOUNDATION
ANDREW HAMILTON AND STEPHANIE POLLACK
(FEBRUARY 23, 1989)

CLF Conservation Law Foundation of New England, Inc.

3 Joy Street
Boston, Massachusetts
02108-1497
(617) 742-2540
Fax: (617) 523-8019

February 23, 1989

Mr. Steven Davis
MEPA Unit
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Dear Mr. ~~Davis~~, Steve

Enclosed are comments of the Conservation Law Foundation on the Environmental Notification Form for the Massachusetts Bay Transportation Authority rapid transit/express bus fare increase, EOEA No. 7551. If you have any questions concerning these comments, do not hesitate to contact us.

Sincerely,

Andrew Hamilton
Staff Scientist

Stephanie Pollack
Stephanie Pollack
Staff Attorney

encl.

A MEPA Regulations exempt the MBTA from notifying the Executive Office of Environmental Affairs (EOEA) for fare increases of less than 30% over a three year period. As a result, neither an Environmental Notification Form (ENF) nor an EOEA waiver is required for this action in order to comply with MEPA. An ENF was filed with EOEA in response to EOEA's request.

CLF Conservation Law Foundation of New England, Inc.

3 Joy Street
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COMMENTS OF THE CONSERVATION LAW FOUNDATION OF NEW ENGLAND, INC. ON THE ENVIRONMENTAL NOTIFICATION FORM FOR THE MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RAPID TRANSIT/EXPRESS BUS FARE INCREASE, EOEA NO. 7551

Andrew Hamilton
Stephanie Pollack

February 23, 1989

As eastern Massachusetts continues its economic expansion, the service quality and long-term financial stability of its primary public transit provider, the Massachusetts Bay Transportation Authority (MBTA), are critical to the economic and environmental health of the region. The Conservation Law Foundation (CLF) is cognizant of the need for the MBTA to increase its farebox revenues at a time when revenue sources are constrained more than usual. CLF also acknowledges that fares have remained unchanged for many years prior to this proposed increase and that the proposed fare would compare favorably to fares in other U.S. metropolitan areas.

A Nevertheless, we continue to adhere to our longstanding belief that Environmental Impact Reports (EIRs) must be prepared before agencies take actions that may damage the environment. CLF's preference is that a full EIR be prepared prior to any fare increase. The MBTA should not be rewarded for waiting so long to propose a fare increase that immediate action seems necessary. The MBTA has known for months that an increase might be

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A See previous page.

necessary and should know that Massachusetts Environmental Policy Act (MEPA) regulations state that ENFs for agency actions should normally be filed one year prior to the projected commencement date. 301 CMR 11.04(4) (1987). A

This agency action may, however, qualify for a waiver of the MEPA regulations. CLF believes that a decision by the Secretary not to require preparation of a full EIR prior to the fare increase can be justified only if the conditions specified in the following comments are met. These comments delineate the necessary scope of a post-fare increase EIR (or pre-increase EIR if no waiver is granted). The comments also discuss what actions the Secretary should require of the MBTA prior to implementation of any fare increase. In sum, CLF believes that the Secretary must carefully delineate those measures which the agency will be required to take to minimize the adverse impacts of the increase and ensure speedy preparation of a full Environmental Impact Report on the consequences of this and future fare increases and other MBTA revenue measures.

I. The Requirement for an EIR

A brief review of the legal framework within which the Secretary will decide how to respond to the MBTA's Environmental Notification Form (ENF) leads to the conclusion that the Secretary has ample authority to require preparation of a full Environmental Impact Report prior to implementation of the fare increase.

B Although the MBTA takes exception to CLF's interpretation of the effect of the revised MEPA regulations on previous actions, the MBTA has agreed to prepare an EIR for the 1989 fare increase.

In 1980 and again in 1981 the MBTA raised its bus and rapid transit fares without first preparing an EIR. As part of the MEPA review of the second fare increase, the MBTA committed itself to prepare a generic EIR on the increases and to update the EIR "every time it raises its fares or makes a major reduction in service."[1] The T similarly committed itself to issue a Socioeconomic Impact Report (SIR) and to update the SIR "every time it increases its fares or makes major reductions in service." A copy of this document is attached to these comments.

This commitment is binding upon the MBTA and was not superseded by the promulgation of MEPA regulations that categorically include only fare increases of more than 30% over a three year period. 301 CMR 11.27(2)(a). Nothing in the language of the MBTA's commitment indicates that the agreement to prepare EIRs expires either after a certain period of time or after the promulgation of differing regulations. The July 31, 1981 document creates a legal duty to conduct an EIR that is enforceable separate and apart from any duty that may be created by the MEPA regulations. The Secretary's decision should clearly state that this is his legal interpretation of the MBTA's 1981 commitment.

B

CLF also believes that the fare increase can properly be considered a "project generating 3000 or more new vehicle trips per day" and thus be considered categorically included. 301 CMR

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[1] Memorandum from James O'Leary to John Bewick at 2 (July 31, 1981) (regarding EOEA No. 4147, Proposed MBTA Fare Increase).

11.25(19). A "project" is broadly defined in the MEPA regulations to include any "activity . . . directly undertaken by an agency," 301 CMR 11.02, a definition which easily encompasses a fare increase. The existence of a specific review threshold for certain MBTA fare increases does not alter the fact that such an agency action falling below the threshold may require an ENF if it is otherwise categorically included. 301 CMR 11.27.

These requirements of the MEPA regulations can, of course, be waived under specified conditions. 301 CMR 11.18. CLF is not convinced that this is a situation in which compliance would result in undue hardship, since "[hardship based on delay in compliance by the proponent will normally not be sufficient for invocation of this section." 301 CMR 11.18(1).

The most appropriate way in which to handle the fare increase would seem to be as the first phase of a longer-term project to adjust and enhance the MBTA's revenue sources. Materials accompanying the ENF indicate that the policy being implemented is that farebox revenues should cover at least 33% of operating expenses -- but that this increase alone will not accomplish that goal. Thus it is fair to assume that the MBTA will have to consider further fare increases and/or other revenue measures in the near future.

The current proposal to increase fares may thus properly be viewed as the first phase of a project suitable for a so-called Phase I waiver under 301 CMR 11.18(3). The rationale for phasing is the same as that employed by the MEPA office in phasing large

development projects: no EIR is required for the first stage so that a relatively environmentally benign action can proceed expeditiously. In return, the proponent agrees to prepare a broader EIR on the remainder of the project.

Two important conditions must be met before such a waiver can be approved. First, the Secretary must find that the impacts of the fare increase "taken alone, are insignificant." 301 CMR 11.18(3)(b). That finding cannot be made on the basis of the materials accompanying the ENF and so the Secretary must require the preparation of a mitigation report or other document which makes the requisite showing. Second, the MBTA must commit not only to complete an EIR for future revenue measures that addresses the impacts of the fare increase, but must make a binding commitment to a schedule for the completion of such an EIR. 301 CMR 11.18(3)(c)-(d). The Secretary's decision on the Environmental Notification Form should determine the full scope of issues to be addressed in both the mitigation report and the subsequent EIR.

II. Scope of the Mitigation Report

As a state agency, the MBTA is required to ensure that "all feasible measures have been taken to avoid or minimize" the adverse environmental impacts of the fare increase. M.G.L. ch. 30, § 61. This core requirement of MEPA applies whether or not the agency is required to prepare an Environmental Impact Report. In order to lay the factual foundation needed to fulfill

Section 61 responsibilities, the MBTA should be ordered to prepare a brief but thorough "mitigation report."

The MEPA mitigation obligation is particularly important in cases involving Phase I waivers. In order to demonstrate that the first phase will have only insignificant impacts, a proponent may wish to rely on mitigation measures to reduce projected impacts. The Secretary should be cautious, however, in allowing the use of mitigation measures as part of the showing of insignificant impact. First, the Secretary should only allow proponents such as the MBTA to rely upon mitigation measures which they are committed to implement prior to the first phase of the project; the commitment to undertake the mitigation measures must be legally binding. Second, the Secretary should not generally allow proponents to rely on a broad and complicated mitigation plan to reduce impacts to the level of insignificance. The more mitigation is required, the more likely it is that significant damage to the environment will occur and that an EIR should be prepared prior to the potentially damaging action.

As stated above, CLF does not believe that the MBTA has made the requisite showing that the impacts of the proposed fare increase are insignificant. Materials accompanying the ENF indicate that rapid transit lines may experience a loss of 20,000 riders in the first year following the fare increase. The potential increase in commuter automobile traffic, and its accompanying air pollution, can hardly be considered insignificant at a time when the state is in violation of the

C Mitigation measures and the preparation of the EIR were agreed to before the fare increase went forward. The Secretary's certificate determined the schedule of the EIR. To assist in the development of the document, the Secretary initiated a Revenue and Service Citizens Advisory Committee. The MBTA established a work scope to address the issues of those commenting on the EIR scoping meeting. The work scope was adopted with the understanding that it could be further modified to address the concerns of the Committee, if necessary. A separate mitigation report was not required by the Secretary. However, mitigation measures were implemented and are detailed in Chapter 6.

D The MBTA conducted a Fare-Mix Survey in the Spring of 1989 before the Fare Increase. The method of estimation of Ridership Change is detailed in Chapter 7. See pages 7-10 through 7-12.

E A number of mitigation measures were made concurrently with the fare increase. These included maintaining local bus fares at a constant level (50¢), adopting 10-pack token sales, simplifying the pass system and deferring the increase in pass prices for a few months.

federal health-based standard for smog and construction of the Central Artery/Third Harbor Tunnel project is about to begin.

Prior to making a final decision on the ENF and waiver, the Secretary should require the MBTA to prepare a mitigation report describing the actions it will take to meet its obligations under Section 61 and ensure that the adverse environmental impacts of the fare increase are indeed insignificant. This report should focus on those measures the MBTA will take prior to the fare increase to mitigate the adverse air quality and traffic impacts caused by loss of passengers. The scope of the mitigation report should be laid out in the Secretary's decision on the ENF and include the following components.

C

First, the document must identify how the MBTA will assess whether the fare increase causes a drop in ridership. Given the difficulties in attempting to determine the effects of the 1980-81 fare increases, it is essential that the MBTA commit itself to a program of efforts to conduct a ridership count (or a more easily quantifiable subcount) prior to implementation of the fare increase. This count can then stand as the numerical basis for a post-increase comparison.

D

Second, the document must specify contingency measures that the MBTA will take to mitigate unacceptably high ridership losses. The MBTA should commit to specific actions -- including adjustments in fares, pass costs, etc. -- that will be taken if ridership drops by more than the projected amount after a reasonable adjustment period.

E

F Additionally, the MBTA implemented a high profile customer relations campaign to inform riders of the rationale for the fare increase and the value of the service. Emphasized in the campaign was the new and improved services which the MBTA has added since the last fare change, the costs of fares on other rapid transit systems and the rate of inflation.

G The MBTA adjusted pass prices so that the break-even points were slightly reduced. Pass prices were also maintained at the previous level for several months as an incentive for passengers to become accustomed to purchasing passes. "Ten-packs" of tokens were initiated and permit 1 free entry into the system when the pack is purchased. A marketing campaign advertising these measures accompanied the notices of the fare increase. See pages 6-5 through 6-8.

H The MBTA has launched an aggressive program for long-term transit parking. Wherever possible the MBTA looks for such cooperative arrangements near MBTA stations and there are few that could provide any large-scale relief. The provision of short-term parking measures was seen as prohibitively time-consuming for rapid implementation before the fare increase.

Third, the report must describe programs that the MBTA is committed to implement prior to or at the same time as the fare increase to dampen its adverse impacts on ridership. These programs should be designed to enhance ridership on all MBTA modes. CLF suggests that the MBTA be required to consider measures in the areas of pricing strategy, peripheral parking supply and customer relations.

F

The MBTA should evaluate mitigation strategies that would alter the pricing of its services to attract more commuters. These should include pricing monthly passes lower (based on fewer than 18 round trips) to provide a greater financial incentive to commuters and offering "ten-packs" of tokens for the price of nine tokens. The mitigation document should evaluate the feasibility of implementing a program of discounted transfers between modes that would begin on the effective date of the fare increase. After deciding what strategies to implement, the MBTA should commit itself to advertising aggressively each of these incentives, and others already in place, through a revitalized comprehensive marketing campaign.

G

The MBTA should also evaluate short-term measures to increase the supply of parking spaces at commuter rail and outlying rapid transit stations. While the MBTA is attempting to construct more peripheral parking lots, the process is necessarily slow. Much of the present demand could be satisfied in the interim by seeking lease agreements with parking lot owners near such stations. In this way, what is now illegal

H

I Customer relations and communications are a top priority of the MBTA and efforts are being made to enhance all areas of MBTA communication.

parking in church and shopping center parking lots during hours of low parking demand could be added temporarily (and perhaps permanently) to the peripheral transit parking supply.

Rapid transit riders may well resent the idea of paying more money to commute on a transit system with ongoing reliability and scheduling difficulties, many of which will continue to occur because of circumstances largely beyond the control of present MBTA personnel, such as the system's age and cumbersome design. In the case of transit services, rider perception is of the utmost importance; riders standing on a platform with no knowledge of when the next train will arrive are less tolerant of delays in service. A better informed rider is likely to be a more loyal rider. The Authority should accordingly implement a customer relations program to keep passengers better informed about service delays, the reasons for delays, improvement programs, the true costs of service, and other relevant information. In the mitigation document, the MBTA should evaluate the possibility of establishing and publicizing a "commuter's bill of rights" which would specify the Authority's commitments to riders in the areas of service reliability, information about service delays, etc.

I

Because of the critical role of this mitigation document in laying the basis for the Phase I waiver and the fulfillment of the MBTA's Section 61 responsibilities, public and agency review is critical. In the course of public review of the ENF, for example, ideas for improving MBTA operations will be received

from many interested parties. Those which can be implemented prior to the fare increase should be included in the Secretary's scope for the mitigation report. The final document should be submitted to the public for review and to the Secretary for review and approval. Because this procedure has not, to CLF's knowledge, been used previously, the Secretary's decision on the ENF should clearly define the procedures for review and approval of the mitigation report.

III. Scope of the EIR

If the fare increase ENF is to be the subject of a Phase I waiver, the Secretary must clearly define the scope of the later "phases" that will be the subject of the post-fare increase EIR. CLF believes that the fare increase is most appropriately viewed as the first in a series of steps to increase farebox and other revenues available to the MBTA for system operation and expansion. The EIR should consequently evaluate the environmental and socioeconomic consequences of choosing fare increases as a method of revenue enhancement and weigh them against the consequences of other potential revenue sources. This exercise will provide an opportunity for the MBTA to step back from its daily operations and particular planning projects and comprehensively examine its approach to serving the transit needs of eastern Massachusetts.

The 1982-1983 environmental review of the last MBTA fare increase involved the preparation of three separate documents:

J The Secretary's scope reflects these comments.

a generic EIR, Socioeconomic Impact Report and Management Practices Study. As noted above, the MBTA committed to update the first two reports every time it increases fares. For all three reports, a notice of availability was published in the Environmental Monitor, a public review and comment period was allowed, and the Secretary ruled on the report's adequacy.[2] CLF believes that the subject matter of all three of these documents should be included in the scope of the post-fare increase environmental review, either by again requiring the preparation of three separate documents or by including all of these issues within the scope of the EIR.

The Secretary's decision on the fare increase ENF must contain a schedule for completion of the EIR (and any other required documents). CLF recommends that the MBTA be given nine months to produce a draft and an additional three months to produce a final document. Under no circumstances should the MBTA be permitted to propose or implement any further fare increases for any modes prior to completion and approval of the final EIR (and any other required documents).

In preparing the EIR, the Authority must be careful to avoid a defensive posture that merely attempts to fend off criticisms of the fare increase. The EIR should not be a justification of the fare increase accompanied by a litany of on-going or planned improvement programs, but rather an exploration of new

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[2] Memorandum from James O'Leary to John Bewick at 2 (July 31, 1981) (regarding EOEA No. 4147, Proposed MBTA Fare Increase).

K Alternative funding sources are detailed in Chapter 9 and each of the income sources included in this comment are included in the matrices on pages 9-11 and 9-12 and the related discussion on pages 9-13 through 9-28.

possibilities for the MBTA's service, planning, and management systems, building on the 1983 EIR. The list which follows outlines areas which should be covered in some detail in the EIR.

A. Alternative Funding Sources

Since the topic of the EIR is funding for the MBTA, the alternatives under consideration must include more than simply future fare increases. The EIR should explore the feasibility of alternative funding mechanisms available to the MBTA and the Executive Office of Transportation and Construction (EOTC) for both operational and capital financing and discuss the relative environmental and socioeconomic impacts of tapping these resources. The alternatives examined should include at least the following: additional future fare increases on commuter rail, rapid transit and/or bus lines; special surcharges on services and use of facilities under the authority of EOTC, including surcharges on bridge and tunnel tolls; concessions; income from MBTA and/or EOTC-owned real estate holdings; advertising; and parking fees at MBTA parking facilities. Where income is already derived from a particular source, such as concessions and the lease of property, the EIR should discuss ways to increase income from that source.

K

The EIR must also consider financing options not currently within the authority of the MBTA and EOTC. If these cannot be viewed as alternatives, such funding mechanisms should at least be viewed as potential mitigation measures since they would

L These funding alternative options are each included in the report. See especially pages 9-20, 9-21 and 9-26, 9-27.

M The impacts of alternative funding mechanisms on transit use, auto use are included as general evaluation criteria. See pages 9-8 through 9-10 for a description of the evaluation criteria which were used in determining the desirability of various future funding options.

reduce the need for additional funds from farebox revenues.[3]

L Among the measures which should be considered as either alternatives or mitigation measures in the EIR are surcharges on commercial parking, development linkage fees dedicated to transit funding and other private financing mechanisms.

The investigation of alternative funding mechanisms and funding mitigation measures should build on the findings of the recent MBTA Advisory Board report on options for financing operating costs.[4] Funding for capital improvements (which was not addressed in the report) should be a major focus of the EIR.

M In the EIR, the MBTA will have to develop measures for comparing the relative environmental and socioeconomic impacts of alternative funding mechanisms. There are real environmental differences among different funding sources: fare increases may decrease ridership and increase automobile commuting, while bridge and tunnel surcharges would tend to drive people out of their automobiles and on to transit. The discussion of funding alternatives and mitigation measures should accordingly include estimates of the number of transit trips lost and vehicle trips generated, with a general assessment of resulting traffic

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[3] While alternatives to be considered in an EIR may have to fall within the authority of the project proponent (in this case the MBTA and EOTC), there is no such restriction on mitigation measures. Mitigation measures beyond the authority of the proponent can be considered as long as the EIR clearly identifies the responsible party. 301 CMR 11.07(7).

[4] Massachusetts Bay Transportation Authority Advisory Board, Financing MBTA Operating Costs: Alternatives for the Future, Future MBTA Service and Funding Alternatives, Volume II, January 1989.

N The ridership information which is being requested can be found in Chapter 6 on pages 6-1 through 6-13.

O The overall MBTA Fare structure, including the MBTA's transfer policy among others, is the subject of Chapter 11. See pages 11-1 through 11-19.

congestion and air pollution, and evaluation of possible land-use impacts of each alternative.

B. Impacts of Fare and Transfer Policies

Clearly a primary focus of the EIR will be the environmental and socioeconomic impacts of any future fare increases. To lay the groundwork for this discussion, the EIR must fully document the impacts of the 1988-1989 commuter rail, rapid transit and express bus fare increases based on pre- and post-increase ridership counts. This information will be critical in estimating elasticities to be used in predicting the effects of future fare increases.

Fare increases can, of course, be structured in different ways which have differing environmental and socioeconomic consequences. The MBTA's fare structure and its transfer policy include historical anomalies and numerous inequities and inconsistencies. Both the fare structure and the transfer policy should be comprehensively reviewed in the EIR and recommendations offered for a restructuring which would erase these problems without sacrificing revenues. The goal of this exercise should be to design a fare/transfer policy which will attract more riders and still maintain a 33% or better fare recovery ratio.

An important component of the fare structure should be the creation of incentives to purchase monthly passes. The pass program has proven to be successful, in spite of the negligible financial advantage to most commuters, the lack of advertising, the paucity of outlets selling passes, and the extra fee imposed

P A general update on the improvement in management practices made since the 1981 study is provided in Chapter 9.

on mail order pass purchases. The EIR should discuss ways to expand the pass program by lowering the price of each pass (i.e. by basing prices on a smaller number of round-trips), eliminating disincentives to purchasing passes, and advertising aggressively the benefits of purchasing passes.

C. Management and Planning Practices

As noted above, environmental review of the 1981 fare increase included the preparation of a Management Practices Study. That study discussed ways in which management procedures and priorities could be improved to increase operating and planning efficiency and promote service quality goals. The current EIR should document the outcome of those recommendations and their effect on management operations at the MBTA.

The EIR (or separate management practices document) should also discuss areas in which management practices could be improved further. Unlike 1982, when the primary management problems centered on use of equipment and manpower, the MBTA's management problems in 1989 stem from the Authority's failure to collect meaningful performance and ridership data, operate under clear standards for service and planning, and undertake comprehensive planning to promote transit use.

1. Data Collection. As discussed in CLF's recent report, Gridlock: Facing Boston's Transportation Dilemma, one of the MBTA's greatest needs in its effort to improve the quality of service is relevant data on MBTA service characteristics. The MBTA Advisory Board's recent analysis of MBTA fare policy

Q MBTA Data collection is addressed in Chapter 7 of the report.

R MBTA service and performance is addressed on page 4-26 of the report.

likewise discusses the need for greater attention to data collection.[5] This document demonstrates that such data, while not inexpensive to collect, so enhances service planning that the Q cost of data collection is more than offset by the avoided cost of poor planning. The EIR should describe in detail the current and future efforts of the Authority to upgrade its data collection systems and establish target dates for the full implementation of these systems.

One area in which current MBTA data collection efforts are particularly deficient is collection of meaningful system performance data. Currently, performance data for rapid transit and bus routes do not reflect those service characteristics which are most meaningful to riders, who care less about the number of scheduled trips completed than <u>when</u> those trips were completed. The lack of meaningful performance data frustrates accurate R determination of the quality of service and thus maintains official ignorance of the details of efficient scheduling and the requirements for maintaining optimal service within a constrained budget. At the very least, the EIR should discuss implementing a program to document deviations from average headway for each rapid transit line and bus route during selected peak and off-peak periods. Such a system should be put into place as soon as possible, prior to the fare increase if possible.

---

[5] Massachusetts Bay Transportation Authority Advisory Board, <u>MBTA Fares: An Analysis of Current Policy and Practice, Future MBTA Service and Funding Alternatives, Volume III</u>, January 1989.

S Keeping widespread data is, in fact, extremely expensive; often prohibitively so for general purposes. As a result, the MBTA is selective about the amount of ridership and system performance information which is collected and analyzed. Wherever possible, information is collected by MBTA staff in the course of usual operations (ie. commuter rail conductor counts and pointchecks) but for each such effort, considerable time and effort is needed to prepare, check and analyze the data. Revenue data is used frequently in monitoring ridership since the data is collected for other purposes and can be applied to derive ridership estimates. For project-level planning, specialized counts are typically conducted. Chapter 4 provides a summary of this information for the entire MBTA system. See pages 4-1 through 4-23. For more specific areas, information is available where special studies have been done. A listing of a number of special study areas is also included. See Pages 4-23 through 4-26.

T Service quality standards are discussed in the report on pages 4-26 through 4-31.

The EIR should also discuss plans and options for systems to collect other types of necessary data which is not currently collected. This would include accurate ridership counts for each rapid transit station, for bus routes, and for each of these systems as a whole; the demographic characteristics of riders, their method of payment, and their origins and destinations; transfer patterns within and between modes; and latent demand in areas not currently served by transit.

S

2. Review of Service and Planning Standards. In many areas, such as construction, the MBTA performs its duties superbly and is a model for other transit systems throughout the country. In other areas, such as scheduling, the Authority continues to lag behind other systems. Improved performance in such areas is partly a function of the Authority's standards in those areas. The EIR should discuss the standards used by the MBTA in two particular areas: planning and service.

Planning standards help determine when transit services should be cut or extended. The EIR should discuss how such decisions are made and whether the criteria used need to be updated. Equally important are the standards by which service quality is measured. Currently, it appears that the quality of rapid transit service is measured only by the percentage of completed train trips -- a measure not sufficiently sensitive to provide a relevant standard of service quality. After performance data collection is improved as suggested above, the Authority will need standards by which to measure the quality of

T

U Comprehensive planning to promote transit use is the underpinning of all of the MBTA's policies and practices. This goal is reflected in the MBTA 's aggressive attempts to site parking at many transit stations, the MBTA's cooperative work with many area developers regarding pass sales, transit use incentives and ridesharing, the MBTA's cooperation with CARAVAN for Commuters, Inc. in the location of preferential vanpool parking within MBTA garages, and the MBTA's work with existing TMA's to coordinate their needs with MBTA services.

service. Both the current service standards and potential revisions of those standards should be described in detail in the EIR.

3. Comprehensive Planning to Promote Transit Use. The purpose of the EIR is to evaluate how revenues can be increased while continuing to expand ridership on the MBTA. Clearly a major obstacle to greater ridership is the lack of a planning and policy-making body at the regional level. For example, there is a need for coordinated organization of transportation management associations (TMAs), matching services for carpooling, and the development of incentives to hasten the sitting of peripheral parking lots, and, above all, a multi-faceted strategy for diverting future additional commuters away from the new Central Artery. The EIR should explore what type of comprehensive planning and policy formulation is needed to encourage greater use of mass transit, both public and private, in each area of the region.

In contrast to most states, a single executive agency oversees almost all aspects of transportation in the Commonwealth. The EIR should discuss ways in which this administrative advantage can best be utilized. At a minimum, this should include an assessment of EOTC's role in promoting transit ridership through measures including: advertising; financial disincentives for driving (e.g., requiring a minimum charge for parking tickets in towns receiving an EOTC construction project); and programs to promote the construction

V Recent service improvements are described in Chapter 4 and Chapter 5. Chapter 5 also contains a description of proposed service improvements.

W A significant effort to improve customer relations is underway at the MBTA and includes all of the areas commented upon.

of peripheral parking lots for commuter rail, public and private express bus and vanpool services, and carpooling.

D. Service Improvements

As these comments have noted repeatedly, the purpose of this EIR is to identify the environmental and ridership impacts of various means of providing revenue for MBTA operations and capital improvements, and to identify ways to maintain and increase ridership in the face of fare increases. An important part of the effort to maintain and increase ridership must be improvements in the quality of service experienced by MBTA riders. Fare increases will lead to a greater ridership loss when there is continuing discontent with the quality of service; riders will be unwilling to pay more for what they consider an inadequate product.

V The 1983 EIR listed a number of service improvements as mitigation measures to encourage ridership. The current EIR should report on the success of each of those measures, describe current efforts in this area, and recommend other service quality improvements that will be made before fares can be anticipated to rise again.

W Consistent with the goal of providing "user-friendly service," the EIR should also explore options for MBTA implementation of an improved program to promote better customer relations. The Authority is obviously sensitive to this need, as evidenced by its dispersal of pamphlets concerning service changes, display boards describing construction projects, more

X This material is addressed in Chapter 8. See especially pages 8-34 through 8-45. Identification of disadvantaged areas is displayed in Figure 8-38 (the whole region) and 8-39 (the inner Boston area) and the impact of the fare change is displayed in Figures 8-1 (page 8-31) and 8-2 (page 8-32).

frequent station announcements, and improved station security and cleanliness. The EIR should explore ways in which these customer relations efforts can be expanded, including the training of personnel to treat riders as the paying customers they are and the testing and upgrading of public address systems in trains and stations. The EIR should also consider the development of specific policies concerning the regularity of announcements of train and bus arrivals. For example, if an arrival will be later than 50% of the scheduled headway, an announcement of that fact would be made.

E. Socioeconomic Impacts

Either the EIR or a separate Socioeconomic Impact Report (SIR) should update the material contained in the SIR prepared in connection with the last set of MBTA fare increases. Groups most likely to be affected by fare increases and other revenue measures should be identified. Specific lines or runs which are used disproportionately by the economically disadvantaged should also be identified.

X

The EIR's discussion of fare and transfer policy, outlined above, should include an assessment of how alternative fare structures can be used to mitigate the socioeconomic impacts of fare increases on these impacted groups. Similarly, the discussion of planning and service standards should include a discussion of how socioeconomic impacts will be taken into account when service changes are being considered.

The most important aspect of the socioeconomic impact evaluation must be the consideration of alternatives and mitigation measures to reduce the impacts of fare increases and other revenue measures on economically disadvantaged groups and ensure that the areas where these people live are adequately served by mass transit.

RESPONSES TO COMMENTS
ASSOCIATION FOR PUBLIC TRANSPORTATION
STEPHEN CHAIT
(February 20, 1989)

A MBTA service planning issues are addressed in Chapter 4 including a discussion of Service and Performance Guidelines. These Guidelines cover On-Time Performance Frequency of Service and Directness of Service as well as more general performance Measures. See pages 4-26 through 4-31.

Association for Public Transportation, Inc.
P. O. Box 192, Cambridge, MA 02238
(617) 547-3332

20 February 1989

Steve Davis
MEPA Unit
Executive Office of Environmental Affairs
20th Floor
100 Cambridge Street
Boston, MA 02202

Dear Steve,

The Association for Public Transportation opposes the proposed fare increase as presented by the MBTA in the Environmental Monitor of February 8, 1989. Our opposition is based not on the dollar value of the increase. It is based on quality of service riders receive for the fare they pay, the lack of rational planning, and the need to make the MBTA a user friendly system.

In the Environmental Impact Review process there are number of issues that require serious examination. But first a procedural point.

In the Environmental Monitor, the fare increase was described as an increase "in the MBTA's rapid rail system fares". In an undated version of the complete package for the ENF, the MBTA has made a significant change by adding "and express bus fares" to the first sentence of the project description.

Can the MBTA make such a change after the notice has appeared in the Environmental Monitor? Please advise if this is an acceptable practice or if the MBTA is playing a bit fast and loose with the ENF/EIR procedures. It is best if all parties presenting Environmental Notification Forms follow the rules.

Now, turning to topics that need to be part of the Scope for the EIR process. These are the following;

A

1. means of improving the reliability of the MBTA service so that passengers receive a quality service,

B Revisions to the monthly pass program including slight changes in the break-even points for pass purchase were instituted by the MBTA is conjunction with the Fare Increase and are detailed in Chapter 6. See pages 6-4 and 6-9.

C Improving communication with passengers has been a top priority of General Manager Glynn and steps are being taken at many levels to enhance such communications. Ensuring that public announcements are made promptly to report a delay, for example, is high on the customer service agenda and progress is charted monthly. Communications such as the public information campaign on the fare increase was begun weeks before the fare increase in an effort to explain the rationale for the fare change and the scheduling of the increased fares.

D Operational efficiency is reviewed frequently at the MBTA within the Operations Directorate. Since 1982, operational efficiency has been improved. For example, the cost of service per mile has decreased by 3.5% from $9.67 to $9.33 since 1982. Efficiency studies are done on a corridor and mode basis. For example, corridor bus studies, reviews of the rapid transit lines and a Green Line efficiency study are all examples of the types of on-going efficiency/service studies currently being done.

E The service and performance guidelines are detailed in Chapter 4. See page 4-26 through page 4-31.

F Present funding as it relates to fare policy and the use of alternative funding mechanisms is the topic of Chapter 9 of this report. Detailed within the Chapter are present financing methods and future options and potential sources for transit revenue. See pages 9-4 through Page 9-28.

G The MBTA's ability to use real estate revenues has been included in Chapter 9 as an existing funding source and a future funding option for the MBTA. See pages 9-7 through 9-14.

B 2. means of improving the marketing of transit services to the public and in particular a more aggressive program for the use of the monthly passes,

C 3. means of improving communication with passengers in the system about schedule changes or service delays,

D 4. means of measuring the efficiency of operations so that if there are ways to reduce costs, these be applied,

E 5. the development of objective criteria for measuring the quality of service and a quarterly review of T preformance,

F 6. a rational planning procedure in which the T reviews its fare policies, the use of alternative sources of revenue, and the level of service that is needed and actual provided, and

G 7. there is a need for a clear statement on the MBTA's role as a real estate developer. The development of real estate owned by the T can be used to benefit the public by generating revenues to meet some of the cost of operation of the system. There are instances where the T real estate development benefits the private developer rather that the user of the system or the tax payers.

At the public consultation, APT will expand on these topics and explain why they are a vital part of the scope for the Environmental Impact Review.

At this point let me just say, if the MBTA is to increase its fares, then it must provide a higher quality of service and be user friendly. Improvements in the reliability of service, the planning process and the marketing of a quality service are the essential ingredients of a user friendly transit system.

APT looks forward to the open and public MEPA process.

Thank you.

Yours truly,

Stephan Chait
President

RESPONSE TO COMMENTS
JOHNSON
PRIVATE CITIZEN

A The bus service was termined on June 30, 1989 due to economic infeasibility. The four towns which the bus served were approached and asked to contribute some portion of the operating deficit of the bus line. Those communities were unwilling to support the service. The MBTA was unable to continue to fund the operation of a line alone and the line was discontinued.

(This letter was re-typed from the original which follows.
The original was barely legible)

Letter is believed to read:

Steve Davis - MEPA File #7551

This is an urgent request to include the announced demise of the Framingham to Newton Town Bus Route on February 18, 1989 in your ongoing review of the MBTA fare increases #7551 MEPA File.

Joe Feiner (722-5759 MBTA), James O'Leary (722-5176), (Tom Glynn, MBTA), are responsible for seeing that this line continues to operate (MBTA Jurisdiction) by finding a private carrier (presently Andre Coachlines 524-8000) or supplying the bus through MBTA. Andre Coachlines will supply driver if MBTA supplies rent-free bus until such time as the former bus clientele's confidence is restored. Van and carpool do not service non-commuters....

Present MBTA subsidiaries on inter-town bus services (Suburban bus route program of the MBTA) subsidize a meandering route with no accurate timetable for the few who can spare two hours to get two miles.

It is unconscionable to take off this major "life-line" route at this point in time, when politicians are largely urging drivers to "get out of their cars" due to traffic and automobile pollution and when development and population growth in Framingham make 2-way, public, non-car-sided transportation so crucial to those at each end of the line and midway between.

The route is the only serving center of Framingham, Natick, Wellesley, Newton (west to east with omissions for MBTA at Woodward Streets the Riverside MBTA and a major stop at Newton/ Wellesley Hospital. No alternative will suffice - commuter rail does not go this route most of the way and does not have multiple local stops.

(ORIGINAL COPY)

File Name - MEI + File # 7551

RECEIVED
FEB 17 1989

Dear Steve

This is an urgent request to include the announced demise of the Framingham to Newton Bus Route on February 18, 1989 in your ongoing review of MBTA service increases # 7551 Mepa File.

Joe Feiner (722 5759 MBTA), James O'Leary (722 5776 MBTA (Tom Glynn MBTA are responsible for seeing that this line (MBTA Jurisdiction) continues to operate by finding a private carrier (presently Andrew Coaches 524 5200) supplying the bus through MBTA. Andrew Coaches will supply drivers if MBTA supplies the bus, until such time as the former bus clientele's confidence

[illegible] MIT + Swarthmore [illegible] the late-fifties [illegible] Swarthmore has cut from [illegible] of MIT-T) [illegible] Lehigh & Muhlenberg

[illegible] routes with an [illegible] timetable, for the few who can spare [illegible] hours to get two miles.

[illegible] is unreasonable to take off this major "life-line" route at this point [illegible] time, when politicians are urging [illegible] to "get out of their cars" due to [illegible] and automobile pollution, and when [illegible] development and population growth in [illegible] make 2-way, public, non-car-[illegible] transportation so crucial to those [illegible] each end of the line and midway between.

RESPONSE TO COMMENTS
CONSERVATION LAW FOUNDATION
ANDREW HAMILTON AND STEPHANIE POLLACK
(FEBRUARY 6, 1989)
PROVIDED AS BACKGROUND INFORMATION

CLF Conservation Law Foundation of New England, Inc.

3 Joy Street
Boston, Massachusetts
02108-1497
(617) 742-2540
Fax: (617) 523-8019

February 6, 1989

Steve Davis
Executive Office of
Environmental Affairs
MEPA Unit
100 Cambridge St.
Boston, MA 02202

Dear Mr. Davis,

It is our understanding that the Executive Office of Transportation and Construction (EOTC) and/or Massachusetts Bay Transit Authority (MBTA) has filed, or shortly will file, an Environmental Notification Form (ENF) for the recently proposed fare increase on rapid transit service. This letter sets forth the Conservation Law Foundation's current position on the matter, in anticipation of our meeting tomorrow.

We continue to believe that CLF can enforce the MBTA's commitment to submit an Environmental Impact Report (EIR) for "every" fare increase. This commitment is described in a January 25, 1989 letter from CLF to Douglas Husid (EOTC) and Gregory Flyn (MBTA), a copy of which you already have.

CLF also believes that the Secretary of Environmental Affairs has ample authority to order the MBTA to file an ENF and/or prepare an EIR, even though the fare increase does not rise to the 30% level specified in 301 CMR 11.27(2)(a). The increase could, for example, be considered a project generating 3,000 or more vehicle trips per day and thus categorically included under 301 CMR 11.25(19). With daily rapid transit ridership exceeding half a million trips, a passenger loss of only 1% in response to the fare increase would generate more than 3,000 new vehicle trips per day.

We are cognizant of the need for the MBTA to increase its farebox revenues at a time when revenue sources are constrained more than usual. CLF also acknowledges that fares have remained unchanged for many years prior to this proposed increase and the proposed fare would compare favorably to fares in other U.S. metropolitan areas.

Nevertheless, we continue to adhere to our longstanding belief that EIRs must be prepared before agencies take actions that may damage the environment. CLF's preference, embodied in

its 1981 understanding with the MBTA, is that a full EIR be prepared prior to any fare increase.

CLF will only accept a decision by your office not to require preparation of a full EIR prior to the fare increase if a number of conditions are met.

First, the MBTA must fulfill its obligations to make Section 61 findings that "all feasible measures have been taken to avoid or minimize" the adverse environmental impacts of the fare increase. M.G.L. ch. 30, 6, and 61. As you are well aware, such findings are required even when no EIR will be prepared. 301 CMR 11.01(3). In order to lay the factual foundation needed to make Section 61 findings, the MBTA should be ordered to prepare a brief but thorough "mitigation report." This report should discuss those measures the MBTA will take prior to the increase to mitigate the adverse air quality and traffic impacts caused by loss of passengers. This document must also identify how the MBTA will assess whether the increase causes a drop in passengers and set out contingency measures that the MBTA will take to mitigate unacceptably high ridership losses. The mitigation report should be submitted to the public for review and to the Secretary for review and approval.

As a condition of not being required to prepare an EIR prior to the fare increase, the MBTA must also be required to agree to prepare an EIR on the broader issue of future revenue enhancement measures. Even after the fare rise, the percentage of the MBTA's operating budget generated by fares will be low compared to other transit systems; there will be pressure to reduce the level of state appropriations. The post-fare increase EIR should compare the environmental impacts of alternative revenue sources: additional hikes, dedicated revenues from special surcharges, parking or bridge and tunnel tolls, development linkage fees or other private sector funding, etc. The MBTA must agree to complete this EIR within one year and agree to freeze current commuter rail, rapid transit, and bus fares until the EIR receives final approval from the Secretary. These commitments should be embodied in the Secretary's certificate on the current fare increase ENF.

Taken together, the mitigation report and EIR will ensure adequate assessment and mitigation of the adverse effects of proposed and future fare increases. The mitigation report will ensure that the fare increase produces only insignificant damage to the environment, fulfilling the purposes of MEPA. The EIR will be analogous to Phase II EIR's now required by your office for certain development projects. The rationale for phasing is the same: no EIR is required and thus a relatively environmentally benign action can proceed expeditiously. In

return, the proponent agrees to prepare a broader EIR on the remainder of the project.

We look forward to discussing these issues with you tomorrow morning and again in the future.

Sincerely,

Andrew Hamilton

Stephanie Pollack

Andrew Hamilton

Stephanie Pollack

cc. John DeVillars

Appendix B

CTPS

State Transportation Building
10 Park Plaza, Suite 2150
Boston, MA 02116-3968
(617) 973-7100

CENTRAL
TRANSPORTATION
PLANNING
STAFF

MEMORANDUM

TO: Donald Kidston, MBTA
Alan Castaline, MBTA

March 27, 1989

FROM: Ronald Shimizu, RS Nick Cohn, and William Massicott

RE: Estimated Ridership Change from the Proposed 1989 MBTA Fare Increase (Rapid Transit and Express Bus)

This memorandum summarizes the analysis of the estimation of ridership change resulting from the proposed 1989 MBTA fare increase for rapid transit and express bus, which is shown in Exhibit 1. Several different planning techniques were used to estimate the ridership change. These techniques and their results are described below.

Elasticity Analysis

One of the most common techniques for estimating changes in ridership that would occur from a fare increase is an elasticity analysis. Elasticity is a dimensionless measure of the percentage change in demand (ridership) that results from a one percent change in a given independent variable (fare, frequency, travel time, etc.). There are several definitions of elasticity that often result in confusion. However, for this analysis, the most common definition of elasticity, midpoint arc elasticity, and the following formula were used to estimate the change in ridership:

$$\text{Ridership Change} = \frac{\text{Change in Fare}}{\text{Existing Fare}} \times \text{Elasticity}_{arc} \times \text{Existing Ridership}$$

where: Elasticity_{arc} = midpoint arc elasticity

$$= \frac{(Q_2 - Q_1)}{(Q_2 + Q_1)/2} \div \frac{(P_2 - P_1)}{(P_2 + P_1)/2}$$

$$= \frac{(Q_2 - Q_1)\ (P_2 + P_1)}{(Q_2 + Q_1)\ (P_2 - P_1)}$$

and Q_1 = ridership before fare change
Q_2 = ridership after fare change
P_1 = fare before fare change
P_2 = fare after fare change

A Cooperative Transportation Planning Effort of the Executive Office of Transportation and Construction Massachusetts Bay Transportation Authority MBTA Advisory Board Massachusetts Department of Public Works Massachusetts Port Authority Metropolitan Area Planning Council

CURRENT AND PROPOSED CASH FARES

	Current Cash Fare		Proposed Cash Fare	
	INBOUND	OUTBOUND	INBOUND	OUTBOUND
Local Buses				
One Zone	.50	.50	.50	.50
Two Zones	.75	.75	.75	.75
Three Zones	1.00	1.00	1.00	1.00
Express Buses*				
$1.00	1.00	1.00	1.40	1.40
$1.25	1.25	1.25	1.65	1.65
$1.50	1.50	1.50	1.90	1.90
Green Line				
Subway	.60	.60	.75	.75
Surface (Except Riverside)	.75	.00	.75	.00
Riverside Line:				
Fenway Park/Reservoir	.75	.00	.90	.00
Chestnut Hill/Riverside	1.50	.00	1.80	.00
RTL Lines				
Orange, Red and Blue Lines (Except Quincy Center, Quincy Adams and Braintree)	.60	.60	.75	.75
Quincy Center	1.20	.60	1.50	.75
Quincy Adams and Braintree stations	1.20	1.20	1.50	1.50
Commuter Rail				
Zone 1A	.60	.60	.75	.75
Zone 1B**	.75	.75	1.00	1.00

* To be considered under a separate proposal
** Commuter Rail Zone 1B: Previously Approved
STUDENTS AND CHILDREN UNDER 12 WOULD CONTINUE TO PAY HALF FARE.

Fare arc elasticities were computed for the previous 1981 MBTA fare increase[1]. These elasticities were based on unlinked trips and their average fares. Unlinked trips are counted every time a person boards a transit vehicle, so a person who transfers from one rapid transit line to another would count as two unlinked rapid transit trips. Initial calculation of the fare arc elasticities were based on the following ridership and average fare numbers:

	Nov. 1980	Nov. 1981
Unlinked Rapid Transit Trips	360,300	310,100
Unlinked Surface Trips	507,000	422,100
Unlinked Avg. Rapid Transit Fare	42.4¢	60.0¢
Unlinked Avg. Surface Fares	21.8¢	39.6¢

The resulting implied raw fare elasticities were -0.44 for unlinked rapid transit trips and -0.32 for unlinked surface trips. These elasticities were then adjusted for the estimated ridership losses for the service cuts occurring around the same time resulting in elasticities of -0.41 for unlinked rapid transit trips and -0.19 for unlinked surface trips.

The -0.41 fare elasticity for rapid transit was compared to elasticities from other urban areas and was found to be significantly higher. Adjustments to account for service reliability were then made resulting in a -0.36 elasticity. This value was still considered to be too high, so pre-1980 fare increase levels were used to re-compute the unlinked rapid transit elasticity. This resulted in a fare elasticity of -0.24 which was adjusted for service cuts producing a final fare arc elasticity for unlinked rapid transit trips of -0.22.

For estimating the ridership change from the proposed 1989 MBTA fare increase, it was felt that using linked trips was more appropriate than unlinked trips in determining the fare elasticities. Linked trips represent the traveler's entire trip. For example, one linked trip might consist of taking a bus from home to the Red Line, taking the Red Line to downtown, and transferring to the Green Line to their place of work. Using linked trips would enable more accuracy in determining the average fare change faced by the traveler, since they only perceive costs when they pay a transit fare. This is especially true in the above example, because the traveler only perceives the boarding fare to the Red Line and not the free transfer to the Green Line, rather than two separate unlinked average rapid transit fares.

Thus, linked trips for the above November 1980 and 1981 ridership were determined using the approach found in the CTPS

---

[1] Central Transportation Planning Staff, "Final Environmental and Socio-economic Impact Report of the MBTA Fare Increase", December 1983.

Fare Mix studies[2]. This approach involves using the percent of linked trips for combination only trips (those trips that use both rapid transit and surface modes) computed from the 1978 MBTA systemwide survey. This percentage was adjusted from 40% to 39% in light of the service and fare changes occurring during 1980 and 1981. The calculations for determining the linked trips are shown below.

Nov. 1980	Nov. 1981
Unlinked R.T. Trips = 360,300	Unlinked R.T. Trips = 310,100
Unlinked Surface = 507,000	Unlinked Surface = 422,100

Rapid Transit Only = X
Combination Only = Y = 39%
Surface Only = Z

X + Y = 360,300	X + Y = 310,100
Z + Y = 507,000	Z + Y = 422,100
Y / (X + Y + Z) = 0.39	Y / (X + Y + Z) = 0.39
Y (Combination) = 243,340	Y (Combination) = 205,440
X (R.T. Only) = 116,960	X (R.T. Only) = 104,660
Z (Surface Only) = 263,660	Z (Surface Only) = 216,660
15% are Surface-to-Surface Transfers	
Z'(Surface Only) = 224,110	Z'(Surface Only) = 184,160

New fare arc elasticities were then determined using the above linked trips and assuming adult cash fare increases in 1981 from 50¢ to 75¢ for rapid transit only, 25¢ to 50¢ for surface only, and 75¢ to $1.25 for combination only trips. The resulting implied raw fare elasticities are -0.28 for rapid transit only, -0.29 for surface only, and -0.34 for combination only trips.

Adjusting the ridership figures to account for the service cuts results in fare elasticities of -0.27 for rapid transit only (0.2% loss in trips due to service cuts), -0.19 for surface only (7.3% loss in trips due to service cuts), and -0.28 for combination only trips. Further adjusting the rapid transit only and combination only trips for rapid transit service reliability results in the following fare arc elasticities:

	$Elasticicty_{arc}$
Rapid Transit Only	-0.24
Surface Only	-0.19
Combination Only	-0.26

[2] Central Transportation Planning Staff, "1981-85 MBTA Fare Mix Sampling Program: Analysis and Documentation", 1983-87.

These fare elasticities were then used to determine the ridership change resulting from the proposed 1989 MBTA fare increase using the formula presented in the beginning of this section. The estimated fiscal year 1988 MBTA average weekday ridership estimates were:

F.Y. 1988

Unlinked R.T. Trips = 423,630
Unlinked Surface = 435,960

Rapid Transit Only = X
Combination Only = Y = 40%
Surface Only = Z

$$X + Y = 423,630$$
$$Z + Y = 435,960$$
$$Y / (X + Y + Z) = 0.40$$

Y (Combination) = 241,180

X (R.T. Only) = 182,450

Z (Surface Only) = 194,780
15% are Surface-to-Surface Transfers
Z'(Surface Only) = 165,560

For determination of the ridership change, a simple increase in rapid transit fares from 60¢ to 75¢ was assumed. The computations are shown below.

R.T. Only Ridership Change = (15¢/60¢) x -0.24 x 182,450
= -10,950

Surface Only Ridership Change = no change

Comb. Only Ridership Change = (15¢/110¢) x -0.26 x 241,180
= -8,550

Thus, a simplified representation of just the rapid transit fare increase resulted in a decrease of 19,500 daily linked trips.

In order to estimate the change in express bus ridership, the fare arc elasticity for rapid transit only was used. Based on MBTA counts, there were approximately 31,000 daily passenger trips using express bus routes. Using a simple increase in express bus fare from $1.25 to $1.65, the ridership change based on the elasticity formulation is shown below.

Express Bus Ridership Change = (40¢/125¢) x -0.24 x 31,000
= -2,380

Thus, a total decrease of 21,880 daily linked trips due to the 1989 MBTA rapid transit and express bus fare increase was estimated using the elasticity analysis approach.

CTPS Mode Choice Model Analysis

The CTPS regional mode choice model analysis was another technique used to estimate the ridership change resulting from the proposed fare increase. The CTPS mode choice model, developed by Alan M. Voorhees and Associates in the mid-1970's based on 1963 home interview survey data, has been re-validated as part of recent transit studies, including the Circumferential Transit Feasibility Study and the South Boston Piers/Fort Point Channel Area Transit Study - Phase II.

The mode choice model allocates the travelers to the two primary competing modes -- auto or transit, based on the desirability or utility of each mode. The utility specification for auto and transit includes variables such as out-of-pocket cost (transit fares, parking fees, and auto operating costs) and perceived trip travel time (in-vehicle and out-of-vehicle time) and is shown below.

$$U_T = 4.17\ [IVT + AAT + 2.5(OVT)] + (AAT/60)(20)(3.47) + FARE$$

$$U_A = 4.17\ [IVH + 2.5(OVH)] + [(3.47)(DIST) + (0.5)(PARK)](1/AO)$$

where:
- U_T = transit utility
- U_A = auto utility
- IVT = in-vehicle transit time
- IHV = in-vehicle highway time
- AAT = auto access time to transit
- OVT = out-of-vehicle transit time
- OVH = out-of-vehicle highway time
- DIST = highway trip distance (miles)
- PARK = average zonal parking cost (1963 cents)
- FARE = transit fare (1963 cents)
- AO = average attraction zone auto occupancy
- 2.5 = factor to convert out-of-vehicle time to perceived in-vehicle equivalent time
- 4.17 = constant to convert time to cost (1963 cents/min.)
- 3.47 = average auto operating cost (1963 cents/mile)
- 20 = average auto access speed (mph)
- 60 = minutes/hour

The determination of the percent transit use for each trip interchange is based on a set of fitted stratified curves for four trip purposes (home-based work, home-based school, home-based other, and non-home based), which are a function of the above utility difference between auto and transit and the level of auto ownership.

Using a 1985/86 person trip table and a 1987 transit network developed for the South Boston Piers/Fort Point Channel Area Transit Study - Phase II, the CTPS regional mode choice model was applied with and without the proposed 1989 MBTA rapid transit and express bus fare increase described in Exhibit 1. This fare increase resulted in a decrease of 7,330 rapid transit linked trips and 1,590 express bus linked trips for a total decrease of 8,920 daily linked trips as a result of the proposed 1989 MBTA rapid transit and express bus fare increase.

Incremental Logit Analysis

An incremental logit analysis was the remaining technique used to estimate the change in ridership from the proposed 1989 MBTA fare increase. This technique involves the use of a logit model coefficient to determine the sensitivity of the estimated transit share to changes in cost or travel time. This incremental logit formulation was developed for the Metropolitan Washington Council of Governments[3] and is shown below.

$$P_1 = \frac{kPo}{1 + (k-1)Po}.$$

where: P_1 = new transit share
Po = original transit share
$k = \exp(\Delta v * c)$ where Δv = change in variable value and c = logit coefficient

For analyzing the impacts of fare changes, a representative logit coefficient for cost must be used. For home-based work trips, logit coefficients for total cost from other mode choice models generally range from -0.004 to -0.018; for home-based non-work trips they range from -0.005 to -0.0996; and for non-home based trips they range from -0.002 to -0.007[4].

For this analysis, a logit coefficient for total cost of -0.0085 for home-based work trips was selected based on a logit mode choice model calibrated for the Boston area[5]. Logit coefficients of -0.0065 for home-based non-work trips and -0.004 for non-home based trips were selected from the above range of coefficient values. In addition, the rapid transit and express bus fare increases were deflated to 1979 dollars to coincide with the approximate age of the survey data used to calibrate these logit mode choice models.

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3 Barton-Aschman Associates, Inc., "Analysis and Augmentation of MWCOG's Transit Models, Metrorail Before and After Program", Washington Council of Governments Transportation Planning Board, March 1983.

4 Schimpeler-Corradino Associates, "Urban Transportation Planning Model Update - Phase III, Task H: Modal Split Model Refinement and Calibraton Standards", Florida Department of Transportation, June 1984.

5 Chang, Yong Bock, "Qualitative Variables in Models for Choice of Work Travel Modes", Northwestern University PhD Dissertation, August 1982.

The base transit shares were obtained from the South Boston Piers/Fort Point Channel Area Transit Study - Phase II validation work. The above incremental logit formulation was then applied to those zonal interchanges which use rapid transit and express bus. These interchanges were determined by analyzing minimum travel time paths through the transit network. In addition, only a simplified representation of the proposed 1989 MBTA fare increase was used; a 15¢ increase for rapid transit fares and a 40¢ increase for express bus fares.

This application of the incremental logit formulation resulted in a decrease of 12,150 rapid transit linked trips and 1,570 express bus linked trips for a total decrease of 13,720 daily linked trips due to the proposed 1989 MBTA rapid transit and express bus fare increase.

Analysis of Results

The three techniques described above, that were used to estimate the ridership change from the proposed 1989 MBTA fare increase, all yield results within the same order of magnitude. The elasticity analysis resulted in a decrease of 21,880 daily linked trips, the CTPS mode choice model analysis resulted in a decrease of 8,920 daily linked trips, and the incremental logit analysis resulted in a decrease of 13,720 daily linked trips.

Of these three techniques, the least rigorous approach is the elasticity analysis. The elasticity analysis is a sketch planning technique that does not take into account any socio-economic characteristics of the traveler or attributes of the competing auto mode as the CTPS mode choice model analysis does, or incorporate current transit shares by geographic area as does the incremental logit analysis.

In addition, the transit system ridership during the November 1980 and 1981 counts may not have sufficiently stabilized from the various fare and service changes that were occurring at the time. The rapid transit fare elasticities of -0.24 for rapid transit only and -0.26 for combination trips seem somewhat high when compared to the mean rapid rail fare elasticity of -0.15 as reported in the Patronage Impacts of Changes in Transit Fares and Services by Ecosometrics, Inc.

The CTPS mode choice model analysis and the incremental logit analysis yielded similar results. The 7,330 to 12,150 decrease in daily rapid transit linked trips represents a 1.7 to 2.9 percent decrease in MBTA rapid transit only and combination linked trips. This is in response to average cash fare increase of approximately 17 percent (assuming for simplicity that the rapid transit only fare increases from 60¢ to 75¢ and that combination trip fare increases from $1.10 to $1.25). The resulting implied rapid transit fare elasticties are -0.102 for

the CTPS mode choice model analysis and -0.169 for the incremental logit analysis, as compared to the above reported mean rapid rail fare elasticity of -0.15. Based on this comparison, the incremental logit analysis technique may have given the most reasonable estimates of the change in ridership.

In summary, this analysis resulted in a decrease in daily linked transit trips ranging from 9,000 to 22,000, with a most probable decrease of 13,700 daily linked trips as a result of the proposed 1989 MBTA rapid transit and express bus fare increase.

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CTPS

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CENTRAL
TRANSPORTATION
PLANNING
STAFF

MEMORANDUM

TO: Donald Kidston, MBTA
Alan Castaline, MBTA

April 12, 1989

FROM: Ronald Shimizu[RS], Nick Cohn, and William Massicott

RE: Estimated Ridership Change from the Proposed 1989 MBTA Fare Increase (Commuter Rail)

This memorandum summarizes the analysis of the estimation of ridership change resulting from the 1989 MBTA fare increase for commuter rail, which is shown in Exhibit 1. The same planning techniques used in the March 27th CTPS memorandum on rapid transit and express bus estimated ridership change were used in this analysis. The results are described below.

Elasticity Analysis

Elasticity is a dimensionless measure of the percentage change in demand (ridership) that results from a one percent change in a given independent variable (fare, frequency, travel time, etc.). There are several definitions of elasticity that often result in confusion. However, for this analysis, the most common definition of elasticity, midpoint arc elasticity, and the following formula were used to estimate the change in ridership:

$$\text{Ridership Change} = \frac{\text{Change in Fare}}{\text{Existing Fare}} \times \text{Elasticity}_{arc} \times \text{Existing Ridership}$$

where: Elasticity_{arc} = midpoint arc elasticity

$$= \frac{(Q_2 - Q_1)}{(Q_2 + Q_1)/2} \div \frac{(P_2 - P_1)}{(P_2 + P_1)/2}$$

$$= \frac{(Q_2 - Q_1)\ (P_2 + P_1)}{(Q_2 + Q_1)\ (P_2 - P_1)}$$

and Q_1 = ridership before fare change
Q_2 = ridership after fare change
P_1 = fare before fare change
P_2 = fare after fare change

A Cooperative Transportation Planning Effort of the Executive Office of Transportation and Construction, Massachusetts Bay Transportation Authority, MBTA Advisory Board, Massachusetts Department of Public Works, Massachusetts Port Authority, Metropolitan Area Planning Council

Exhibit 1

COMMUTER RAIL FARE INCREASE

FARES TO/FROM BOSTON

	Prior to 3/1/89		Prior to 4/1/89		
Zone	One Way	Children Students Sr Citiz Sp Needs	12 Ride	Monthly Pass	Family Fare
1A	$0.60	$0.30	$ 6.50	$ 22.00	$ 2.50
1B	0.75	0.35	8.25	22.00	3.00
1	1.25	0.60	13.75	40.00	5.00
2	1.50	0.75	16.50	48.00	6.00
3	1.75	0.85	19.25	56.00	7.00
4	2.00	1.00	22.00	65.00	8.00
5	2.25	1.10	24.75	74.00	9.00
6	2.50	1.25	27.50	79.00	10.00
7	2.75	1.35	30.25	84.00	11.00
8	3.00	1.50	33.00	89.00	12.00
9	3.50	1.75	35.75	94.00	13.00
10	4.00	2.00	38.50	99.00	14.00
11	4.50	2.25	41.25	104.00	15.00

	Effective 3/1/89		Effective 4/1/89		
Zone	One Way	Children Students Sr Citiz Sp Needs	12 Ride	Monthly Pass	Family Fare
1A	$0.60	$0.30	$ 6.50	$ 22.00	$ 2.50
1B	0.75	0.35	8.25	22.00	3.00
1	1.65	0.80	18.25	52.00	6.50
2	1.90	0.95	21.50	61.00	7.50
3	2.25	1.10	24.75	70.00	9.00
4	2.50	1.25	27.50	80.00	10.00
5	2.75	1.35	30.25	90.00	11.00
6	3.10	1.55	34.00	96.00	12.00
7	3.35	1.65	36.75	102.00	13.00
8	3.60	1.80	39.50	108.00	14.00
9	4.25	2.10	43.00	114.00	15.00
10	4.75	2.35	46.50	120.00	16.00
11	5.25	2.60	50.00	126.00	17.00

A fare elasticity for commuter rail in the Boston region was determined from a 1962/63 mass transportation demonstration project[1]. A fare elasticity value of -0.17 was derived from this study.

This fare elasticity was then used to determine the ridership change resulting from the 1989 MBTA commuter rail fare increase using the formula presented in the beginning of this section. A 1988 MBTA weekday ridership estimate for commuter rail of 65,000 daily trips was used. The average one-way cash fares before and after the commuter rail fare increase were computed based on MBTA station boarding counts and the commuter rail zone fare structure to Boston. An average one-way cash fare of $1.93 before the fare increase versus $2.42 after the fare increase was determined. The computation of the ridership change resulting from the fare increase is shown below.

$$\text{Com. Rail Ridership Change} = (49¢/193¢) \times -0.17 \times 65{,}000$$
$$= -2{,}810$$

Thus, a total decrease of 2,810 daily trips due to the 1989 MBTA commuter rail fare increase was estimated using the elasticity analysis approach.

CTPS Mode Choice Model Analysis

The CTPS mode choice model allocates the travelers to the two primary competing modes -- auto or transit, based on the desirability or utility of each mode. The utility specification for auto and transit includes variables such as out-of-pocket cost (transit fares, parking fees, and auto operating costs) and perceived trip travel time (in-vehicle and out-of-vehicle time) and is shown below.

$$U_T = 4.17\ [IVT + AAT + 2.5(OVT)] \div (AAT/60)(20)(3.47) + FARE$$

$$U_A = 4.17\ [IVH + 2.5(OVH)] + [(3.47)(DIST) \div (0.5)(PARK)](1/AO)$$

where:
- U_T = transit utility
- U_A = auto utility
- IVT = in-vehicle transit time
- IHV = in-vehicle highway time
- AAT = auto access time to transit
- OVT = out-of-vehicle transit time
- OVH = out-of-vehicle highway time
- DIST = highway trip distance (miles)
- PARK = average zonal parking cost (1963 cents)
- FARE = transit fare (1963 cents)
- AO = average attraction zone auto occupancy
- 2.5 = factor to convert out-of-vehicle time to perceived

[1] Mass Transportation Commission, "Mass Transportation in Massachusetts", Commonwealth of Massachusetts, July 1964.

in-vehicle equivalent time
4.17 = constant to convert time to cost (1963 cents/min.)
3.47 = average auto operating cost (1963 cents/mile)
20 = average auto access speed (mph)
60 = minutes/hour

The determination of the percent transit use for each trip interchange is based on a set of fitted stratified curves for four trip purposes (home-based work, home-based school, home-based other, and non-home based), which are a function of the above utility difference between auto and transit and the level of auto ownership.

Although the CTPS mode choice model was re-validated for recent rapid transit studies, the commuter rail system outside of Route 128 was never fully calibrated. The total simulated commuter rail passengers are very close to MBTA systemwide commuter rail counts, but it is felt that the trip purpose and distribution of these commuter rail trips needs further refinement. However, for the purpose of obtaining an order of magnitude estimate of the ridership change resulting from a fare increase, it is felt that the CTPS mode choice model is appropriate.

Using the 1985/86 person trip table and the 1987 transit network developed for the South Boston Piers/Fort Point Channel Area Transit Study - Phase II, the CTPS regional mode choice model was applied with and without the 1989 MBTA commuter rail cash fare increase described in Exhibit 1. This resulted in a decrease of 2,670 daily trips due to the 1989 MBTA commuter rail fare increase.

Incremental Logit Analysis

An incremental logit analysis was the remaining technique used to estimate the change in ridership from the proposed 1989 MBTA fare increase. This technique involves the use of a logit model coefficient to determine the sensitivity of the estimated transit share to changes in cost or travel time. This incremental logit formulation was developed for the Metropolitan Washington Council of Governments[2] and is shown below.

$$P_1 = \frac{kP_o}{1 + (k-1)P_o}.$$

where: P_1 = new transit share
P_o = original transit share
$k = \exp(\Delta v * c)$ where Δv = change in variable value and c = logit coefficient

[2] Barton-Aschman Associates, Inc., "Analysis and Augmentation of MWCOG's Transit Models, Metrorail Before and After Program", Washington Council of Governments Transportation Planning Board, March 1983.

For analyzing the impacts of fare changes, a representative logit coefficient for cost must be used. For this analysis, a logit coefficient for total cost of -0.0085 for home-based work trips was selected based on a logit mode choice model calibrated for the Boston area[3]. In addition, the commuter rail fare increase was deflated to 1979 dollars to coincide with the approximate age of the survey data used to calibrate these logit mode choice models.

Rather than using the transit shares from the CTPS mode choice model, the base commuter rail transit shares were obtained from applying a fratar distribution model to the 1980 Census Journey-to-Work commuter rail and total auto and transit person trips. A fratar model is a simple proportional growth model that requires growth factors, which were based on population and employment growth, and a base year distribution of trips. The resulting 1988 commuter rail trip table was then adjusted to account for new commuter rail service implemented since 1980 and for trips originating outside of the CTPS eastern Massachusetts study area.

The above incremental logit formulation was then applied to these commuter rail transit shares assuming an average commuter rail fare increase of 49¢ as described in the elasticity analysis. This application of the incremental logit formulation resulted in a decrease of 6,600 daily trips to the downtown area due to the 1989 MBTA commuter rail fare increase.

Analysis of Results

The three techniques described above, that were used to estimate the ridership change from the 1989 MBTA commuter rail fare increase, all yield results within the same order of magnitude. The elasticity analysis resulted in a decrease of 2,810 daily trips, the CTPS mode choice model analysis resulted in a decrease of 2,670 daily trips, and the incremental logit analysis resulted in a decrease of 6,600 daily trips.

Of these three techniques, the least rigorous approach is the elasticity analysis. The elasticity analysis is a sketch planning technique that does not take into account any socio-economic characteristics of the traveler or attributes of the competing auto mode as the CTPS mode choice model analysis does, or incorporate current transit shares by geographic area as does the incremental logit analysis.

The CTPS mode choice model, which was not fully calibrated for the area outside of Route 128, resulted in a decrease in commuter rail ridership very similar to that of the elasticity

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[3] Chang, Yong Bock, "Qualitative Variables in Models for Choice of Work Travel Modes", Northwestern University PhD Dissertation, August 1982.

analysis. The 2,670 decrease in daily commmuter rail trips represents a 4.1 percent loss in ridership. This is in response to an average cash fare increase of approximately 25.4 percent (assuming for simplicity that the commuter rail only cash fare increases from $1.93 to $2.42). The resulting implied commuter rail fare elasticity is -0.161 for the CTPS mode choice model analysis, which seems very reasonable.

The incremental logit analysis yielded somewhat higher ridership changes as compared to the other two techniques. The 6,600 decrease in daily commmuter rail trips represents a 10.2 percent loss in ridership. This is in response to an average cash fare increase of approximately 25.4 percent, resulting in an implied commuter rail fare elasticity of -0.40. This implied elasticity is obviously too high. One reason for this result is that the incremental logit technique is not recommended for analyzing large changes in variables. Also, the logit coefficient used for total cost may not be appropriate for use in analyzing commuter rail travel only.

In summary, this analysis resulted in an estimated decrease of daily trips ranging from 2,700 to 6,600 as a result of the 1989 MBTA commuter rail fare increase. Due to the current parking constraints at many commuter rail stations, it is felt that a decrease in the smaller end of this range is more probable.

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